

2.4 Mussel Survey Report

Report on the mussels
of the Blanchard River
in the vicinity of
Findlay, Ohio

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Summary

A study of the mussels of the Blanchard River and Eagle Creek in and within the vicinity of the City of Findlay, Ohio was performed on 19-22 September, 26-29 September, and 3-6 October. Water clarity during this time period was excellent and water depth was within acceptable limits throughout the study period. Mussels were collected by hand employing sight and tactile methods involving both general collecting (including some timed sampling methods) and line transect and quadrat sampling. A total of 29 species of mussels were found during the current study. Twenty of these species were found to be extant in the Blanchard River in the study area and seven species were found to be extant in Eagle Creek. Eagle Creek within its lower reaches suffers from water quality and habitat quality problems that limit this stream's ability to serve as habitat for a wider diversity of mussels. Furthermore, habitat constrains the community of mussels within the impounded section of the Blanchard River in the City of Findlay. Only eight species of mussels were found in this reach, none of these species was found alive, and one of these species (*Uniomorous tetralasmus*, an Ohio threatened species) was found only as a weathered dead specimen (indicating that the species is not extant in the reach).

All other reaches examined supported a fairly diverse community of mussels. The second reach upstream from the downstream end of the project area supported the greatest diversity of mussels with 18 species found to be extant in this reach and three others extirpated from the reach. This reach supports Ohio listed species (all Ohio species of concern) and high mussel density (3.8-4.4 mussels/m²). Another reach (Area 4) produced a living specimen of the Ohio threatened species (*Ligumia recta* – black sandshell) as well as 12 extant species and one extirpated species. Area 1 (furthest downstream section) supported 12 extant species also with five species found to be extirpated from this reach, and Area 6 (upstream of the city) supported seven extant species with three species found to be extirpated from this reach.

No living or freshly dead specimens of Ohio endangered or US endangered (or candidate species) were found during the study. The clubshell, *Pleurobema clava* (Ohio and US endangered species), was found as weathered and subfossil shells in the lowermost two areas sampled, the rayed bean, *Villosa fabalis* (Ohio endangered and in prelisting as a US endangered species) was found as subfossil shells in the lowermost reach, and the purple lilliput, *Toxolasma lividus* (Ohio endangered and candidate for listing as a US endangered species) was found as a weathered shell in the lowermost reach. Similarly, *U. tetralasmus* (described above) and the wavy-rayed lampmussel, *Lampsilis fasciola* (Ohio species of concern) were found to be extirpated from the river. All other listed species (*L. recta*, black sandshell – Ohio threatened, *Alasmidonta marginata*, elktoe, *Lasmigona compressa*, creek heelsplitter, *Simpsonaias ambigua*, salamander mussel, *Ptychobranchus fasciolaris*, kidneyshell, and *Truncilla truncata*, deertoe – all Ohio species of concern) were found alive and/or as freshly dead shells indicating extant populations of these species occur in the project area. Given the presence of these species, the relatively high diversity of mussels in Area 2 and the large number of extant versus extirpated species (20 of 29 species found extant), the unimpounded reaches of the Blanchard River support a locally significant mussel community.

Introduction

Prior to 1990 little data existed concerning the mussels of the Blanchard River (Watters *et al.*, 2009). The Museum of Zoology at The Ohio State University (OSUM) had 56 lots of specimens representing 21 species of mussels. No Ohio or US endangered or threatened species were known from the river and the river had only been sampled at five locations for mussels. In 1994 a survey of the mussels of the upper portion of the river was required during environmental assessment of the US Route 30 construction project. The authors of that report listed 15 species of mussels for this reach (upstream of Mt. Blanchard) including five species listed as endangered by Ohio. Upon review of the list included in this report, it was found to list species not known to occur in the Lake Erie drainage system and so later that summer a new study of the mussels of this reach was conducted. That study was continued through the summer of 1996 (Hoggarth *et al.*, 2000) and ultimately resulted in the discovery of 21 species of mussels from this reach including one US and Ohio endangered species (*P. clava* – clubshell) and two species listed by Ohio as endangered and candidates for listing as endangered by the USFWS (*T. lividus* – purple lilliput, and *V. fabalis* – rayed bean). Hoggarth *et al.* (2000) documented the fact that *V. fabalis* was more abundant in this reach of the Blanchard River than any other stream in Ohio and perhaps in the Midwest.

Mussels are the most endangered of all aquatic organisms (Neves, 1993) with 14 of 80 Ohio species listed as endangered by the U.S. Fish and Wildlife Service, and another 21 species listed as endangered by the Ohio Department of Natural Resources, Division of Wildlife. In addition, ten species are listed as threatened or of special concern in the state. Sixteen Ohio species of mussels are either extirpated or extinct (ODNR, 2009).

Many factors have contributed to the decline in population number and community structure of these animals (reviewed by Havlik and Marking, 1987 and Marking and Bills, 1980). Chief among these factors are water pollution, sedimentation, habitat destruction, the construction of impoundments, instream construction including dredging and filling operations, and more recently competition with zebra mussels (Starrett, 1971; Fuller, 1974; Neves, 1987). Each of these affects mussels differently; instream construction might increase sedimentation which clogs mussel gills, while water pollution and the formation of impoundments affects the chemical constituency of the water and the physical nature of a stream's habitats. Taken together these threats to stream ecosystems have resulted in the rarity of many species and populations of mussels.

The current study was performed to determine the mussel resources in the Blanchard River and Eagle Creek in Findlay, Ohio, immediately upstream of the city for both streams and immediately downstream of the city for the Blanchard River (Figures 1 & 2). In recent years the city has suffered significant flooding events, which the city working with state and federal agencies, would like to resolve for the health and welfare of the people of Findlay. This report provides the information needed to determine the impact of any proposed solution to the flooding problem on the mussel communities within the project area as shown in Figures 1, 2 and 3.

Materials and Methods

A study of the community structure and distribution of the mussels of the Blanchard River and Eagle Creek in Findlay (see Figures 1, 2 and 3 for the limits of this study) was performed on the following dates: 19-22 September, 26-29 September, and 3-6 October. Both streams were fairly low during the entire length of this study (Figure 4) with excellent water clarity (extremely important for sight dependent survey methods). Water chemistry parameters were examined late in the study (3-6 October 2009) due to rain events between 29 September 2009 and 3 October 2009 that may have changed water clarity and dropping temperatures (especially nighttime temperatures) that may have decreased water temperature below recommended for extracting mussels from the substrate (50 °F, 10 °C). The following water quality parameters were assessed: water temperature and conductivity (HACH SensIon 5 Conductivity meter), Turbidity (HACH 2100P Turbidimeter) and pH and oxygen concentration (HACH HQ40d multiprobe meter).

During the current study mussels were collected by employing transect and quadrat sampling and general collecting methods, as well as limited timed collecting techniques. Glass bottom viewers were used to increase the effectiveness of these fairly sight intensive methods. In addition, dead shells were collected from the banks and bottom of the river and creek and live mussels were collected by noodling (employing tactile methods rather than sight methods). The entire reach of the Blanchard River shown in Figures 1, 2 and 3 and Eagle Creek were sampled for mussels during this study. Where possible, the river and creek were walked and where the river was too deep (between dams in the City of Findlay), the river was sampled from a canoe. That is access to sampling locations was reached by canoe. Figures 5 through 10 show representative photographs for each reach sampled on the Blanchard River and Figures 11 and 12 show Eagle Creek. The Blanchard River was subdivided into five reaches for better communication of the data and Eagle Creek was subdivided into two reaches. The following reaches were assigned for the Blanchard River: Reach 1 (furthest downstream) extended from CR 128 to TR 139; Reach 2 extended from TR 139 to CR 140; Reach 3 was from CR 140 to IR 75; Reach 4 was from IR 75 to the first dam upstream of the IR 75 Bridge; Reach 5 was between dams in Findlay; and Reach 6 was immediately downstream of the SR 568 Bridge (in the unimpounded section of the river upstream of the City of Findlay). Eagle Creek was subdivided into two reaches; one upstream of a city park dominated by a natural stream corridor, and one downstream of this reach dominated by an urban stream corridor. A sewer break, which was emptying untreated sewage into Eagle Creek within the upstream reach further distinguished the upstream from the downstream sections (that sewer line break was at 41°00'12.59"N by 83°38'37.32"W and entered Eagle Creek at 41°00'11.10"N by 83°38'39.78"W). This outfall significantly impacted the water quality of Eagle Creek as shown in Figure 13 and in the water quality data described below

All live mussels collected in quadrats were measured (length, height, width), aged (annular ring method), and sexed when possible (only one subfamily of mussels shows sexually dimorphism in shells). Live mussels collected during general collecting or

during timed sampling were identified and either left *in situ* or extracted from the bottom, identified, tallied, and quickly returned to the substrate. Shells were collected whenever found and determined to be freshly dead (dead less than one year with an intact periostracum and lustrous nacre), weathered dead (dead between one and twenty years with a mostly intact periostracum but lacking luster to the nacre) or subfossil shells (dead longer than twenty years with an abraded periostracum and chalky nacre). Only live and freshly dead shells were used to indicate the existence of an extant population of mussels within the project area.

Results

Twenty-three species of mussels had been recorded from the Blanchard River prior to this study (Table 1). Included in this total were one species (*P. clava* – the clubshell) listed as an Ohio and US endangered species, one species (*V. fabalis* – rayed bean) listed as an Ohio endangered species and in prelisting as a US endangered species, one other species listed as endangered in Ohio (*T. lividus* – purple lilliput), and five species listed in Ohio as species of concern (*A. marginata* – elktoe, *L. compressa* – creek heelsplitter, *P. sintoxia* – round pigtoe, *P. fasciolaris* – kidneyshell, and *L. fasciola* – wavy-rayed lampmussel). All but *P. clava* were found to be extant in the upper reaches of the river (Hoggarth *et al.*, 2000). *Pleurobema clava* (clubshell) is believed to be extirpated from the river today (USFWS, 1993). The current study resulted in the discovery of 29 species of mussels from the Blanchard River (with fewer coming from Eagle Creek) including eight species never before reported for the river (Table 2). In addition, two species previously recorded for the river were not found during this study (as live specimens or dead shells). This gives a total of 31 species of mussels for the river. A total of seven species of mussels were found to occur in Eagle Creek (Table 3). Of these species, all were found extant within the upstream section and only two were found extant in the downstream section.

The current study yielded only weathered and subfossil specimens of *P. clava*, *T. lividus*, and *V. fabalis* (Table 4). No other Ohio or US endangered species were found. However, one live specimen of *L. recta* was found in Area 4 (see Figures 2 & 14, and Table 4) (an Ohio threatened species) as well as live and/or freshly dead specimens of the following Ohio species of concern: *A. marginata*, *L. compressa*, *S. ambigua*, *P. fasciolaris*, and *T. truncata*. *Lampsilis fasciola* (an Ohio species of concern) was only found as a weathered shell. This is a first record for *L. recta*, *S. ambigua* and *T. truncata* for the river. In addition, one weathered dead specimen of *U. tetralasmus* (pondhorn) was collected from this river, which also represents the first time this Ohio threatened species has been collected from the Blanchard River. Given that the shell had been dead for some time and was collected from an impounded section of the river, it probably is not extant in the river today.

All sections of the river and both sections of Eagle Creek (see above for this discussion) produced mussels. Section 5 (between dams in the City of Findlay) produced the fewest extant species (seven), no live mussels, and only 24 freshly dead shells (Table 4). The species found in this reach were slack water or generalist species commonly found in

Ohio rivers and lakes (particularly impoundments). Freshly dead shells of one Ohio species of concern (*T. truncata*) were found in this reach (indicating an extant population of this species in this reach), but that species is more abundant and more widely distributed than its status in Ohio and nearby states indicates (see discussion below). Sections 2 and 4 produced the most mussels (Table 4). Section 2 produced 18 extant species and three species as weathered or subfossil shells. The three dominant species in this reach were *Lasmigona complanata* (white heelsplitter), *Leptodea fragilis* (fragile papershell) and *T. truncata* (deertoe). Quadrat sampling produced estimates of 0.8 mussels/m² in a run habitat within this reach and 3.8-4.4 mussels/m² in faster water habitats (either in riffles or just downstream of a riffle in a fast run habitat) near Liberty Landing canoe launch area (see Appendix 1 for these data). These same areas produced estimates of the Asiatic clam (*Corbicula fluminea* – an invasive species) in excess of 1000 clams/m².

Area 1 (furthest downstream section) produced the second most number of species (17) and specimens of *P. clava*, *T. lividus* and *V. fabalis*, but these, and other species, were represented here only by weathered or subfossil specimens. This reach only produced 35 live mussels, even though it was the longest natural reach of stream (not impounded) sampled during this study. Section 3 only produced six live mussels and seven extant species, but it was the shortest reach sampled during this study. It was separated here as it represents the reach of the river immediately downstream of the outfall of the wastewater treatment facility for the City of Findlay. We do not believe the relative absence of mussels here is due to that facility but the absence of habitat for mussels in this reach. The water chemistry for this reach was not all that different from reaches immediately upstream or downstream of the outfall (Table 5) and all parameters were within acceptable limits for mussels.

The same cannot be said for Eagle Creek. The site where water was sampled from Eagle Creek was downstream of the sewage line break discussed above and shown in Figure 13. It is probable that the water being help upriver by the lower water levels experienced on 19-22 September, and 26-29 September (Figure 4) was released downstream by the precipitation event that occurred prior to the 3-6 October collecting period (Figure 4). This water increased the Biological Oxygen Demand (not quantified) and reduced the oxygen concentration of the creek below 5 mg/l, which is generally thought of as the minimum level necessary to support aquatic life (Table 5). A combination of water quality and habitat quality problems has eliminated all but the most tolerant of mussels from the lower reaches of Eagle Creek (Table 5 and Figure 12).

Discussion

This report documents the most complete survey for mussels in the vicinity of Findlay, Ohio that has been done. A total of 29 species of mussels were documented for the Blanchard River within this area and seven species were found in Eagle Creek. Prior to this study, Hoggarth *et al.* (2000) documented 21 species for the river and OSUM (Watters *et al.*, 2009) document two additional species for the river. During the current study 20 of the 29 species found were found to have extant populations in the reach

(mostly upstream and downstream of the impounded section in downtown Findlay). None of the Ohio endangered species were found to be extant in the study area (including one federal endangered species, *P. clava*, one species in prelisting as an endangered species, *V. fabalis*, and one species a candidate for prelisting, *T. lividus*).

Eight species were reported here for the river for the first time. Six of these maintain extant populations in this reach (including the Ohio threatened species, *L. recta*, and two species listed by Ohio as species of concern, *S. ambigua* and *T. truncata*). The latter species, *T. truncata* is of interest as it, along with *L. fragilis* and *Potamilus alatus* are on the increase in the state as the species' host fish is becoming more abundant and widely distributed statewide and in adjacent states (Hoggarth, 1986, 1990, 1999, 2000, 2008, 2009; Hoggarth and Yankie, 2008). The freshwater drum (*Aplodinotus grunniens*) is the host of the parasitic larval stages of these three aforementioned species. As the drum's abundance and distribution has increased so too have these species. Freshwater drum were observed in the study area particularly downstream of the dams in the Blanchard River.

The mussel community that occurs in the Blanchard River upstream of the impounded sections and downstream of the dams in the river represent locally significant populations of mussels. Although the downstream community is dominated by a relatively silt tolerant and habitat generalist mussel (*L. complanata* accounted for 75-90% of the mussels in this reach), there are sufficient other species in this reach to suggest the mussel community here is of local significance. The presence of numerous state listed species here (including one Ohio threatened species and other species of concern) supports this conclusion. The number of creek heelsplitters (*L. compressa*) in Section 2 of the Blanchard River and kidneyshells (*P. fasciolaris*) in the section immediately upstream of the city is impressive. Both species were found upstream by Hoggarth et al. (2000), but only in similar numbers at the best site in the upper river. The density of mussels in a portion of this area (in the faster water within Section 2) also confirms the significance of the mussel community here (3.8-4.4 mussels/m²).

Endangered Species

Only weathered and/or subfossil shells of *P. clava* were found in the study area (Sections 1 & 2). No live or freshly dead specimens were found. These data agree with the Recovery Plan for this species (USFWS, 1993) that this species is extirpated from the river. Additionally, only two subfossil shells of *V. fabalis* and one weathered shell of *T. lividus* were found at Station 1 (the only station that yielded these species). Again, these data suggest both species have been extirpated from this reach of the river. Similarly, *U. tetralasmus* (Ohio threatened) and *L. fasciola* (Ohio species of concern) were only found as a weathered shell indicating they too are extirpated from the river today. All other listed species, *L. recta* (Ohio threatened), and *A. marginata*, *L. compressa*, *S. ambigua*, *P. fasciolaris*, and *T. truncata* (all Ohio species of concern) were found to be extant. This is the first record of *L. recta* and *S. ambigua* for the Blanchard River. No Ohio or federally listed species were found to occur in Eagle Creek. This stream lacked suitable habitat in its lower reaches and was suffering from water quality problems upstream.

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Table 1. Species of mussels collected from the Blanchard River by Hoggarth *et al.* (2000) and/or deposited in the collection of the Ohio State University Museum of Zoology.

Species	Common name	Extant
1. <i>Pyganodon grandis</i>	giant floater	Yes
2. <i>Anodontoides ferussacianus</i>	cylindrical papershell	Yes
3. <i>Strophitus undulatus</i>	creeper	Yes
4. <i>Alasmidonta viridis</i>	slippershell	Yes
5. <i>Alasmidonta marginata</i> ^c	elktoe	Yes
6. <i>Lasmigona costata</i>	fluted-shell	Yes
7. <i>Lasmigona complanata</i>	white heelsplitter	Yes
8. <i>Lasmigona compressa</i> ^c	creek heelsplitter	Yes
9. <i>Amblema plicata</i>	threeridge	Yes
10. <i>Quadrula quadrula</i>	mapleleaf	Yes
11. <i>Quadrula pustulosa</i>	pimpleback	Yes
12. <i>Pleurobema clava</i> ^a	clubshell	No
13. <i>Pleurobema sintoxia</i> ^e	round pigtoe	Yes
14. <i>Fusconaia flava</i>	Wabash pigtoe	Yes
15. <i>Elliptio dilatata</i>	spike	Yes
16. <i>Ptychobranhus fasciolaris</i> ^c	kidneyshell	Yes
17. <i>Toxolasma lividus</i> ^c	lilliput	Yes
18. <i>Toxolasma parvum</i>	purple lilliput	Yes
19. <i>Villosa iris</i>	rainbow	Yes
20. <i>Villosa fabalis</i> ^b	rayed bean	Yes
21. <i>Lampsilis radiata luteola</i>	fat mucket	Yes
22. <i>Lampsilis cardium</i>	pocketbook	Yes
23. <i>Lampsilis fasciola</i> ^c	wavy-rayed lampmussel	Yes

a – Ohio and US endangered, b – Ohio endangered and US prelisting, c – Ohio endangered, d – Ohio threatened, e – Ohio species of concern

Table 2. Species of mussels collected from the Blanchard River and Eagle Creek during the current study in the vicinity of Findlay, Ohio.

Species	Common name	Extant
1. <i>Utterbackia imbecillis</i>	paper pondshell	Yes
2. <i>Pyganodon grandis</i>	giant floater	Yes
3. <i>Anodontoidea ferussacianus</i>	cylindrical papershell	Yes
4. <i>Strophitus undulatus</i>	creeper	Yes
5. <i>Alasmodonta marginata</i> ^c	elktoe	Yes
6. <i>Lasmigona costata</i>	fluted-shell	Yes
7. <i>Lasmigona complanata</i>	white heelsplitter	Yes
8. <i>Lasmigona compressa</i> ^c	creek heelsplitter	Yes
9. <i>Simpsonia ambigua</i> ^c	salamander mussel	Yes
10. <i>Amblema plicata</i>	threeridge	Yes
11. <i>Quadrula quadrula</i>	mapleleaf	Yes
12. <i>Quadrula pustulosa</i>	pimpleback	Yes
13. <i>Pleurobema clava</i> ^a	clubshell	No
14. <i>Fusconaia flava</i>	Wabash pigtoe	Yes
15. <i>Elliptio dilatata</i>	spike	Yes
16. <i>Unio tetrasmus</i> ^d	pondhorn	No
17. <i>Ptychobranchius fasciolaris</i> ^c	kidneyshell	Yes
18. <i>Leptodea fragilis</i>	fragile papershell	Yes
19. <i>Potamilus alatus</i>	pink heelsplitter	Yes
20. <i>Truncilla truncata</i> ^c	deertoe	Yes
21. <i>Toxolasma lividus</i> ^c	lilliput	No
22. <i>Toxolasma parvum</i>	purple lilliput	No
23. <i>Obovaria subrotunda</i>	hickorynut	No
24. <i>Ligumia recta</i> ^d	black sandshell	Yes
25. <i>Villosa iris</i>	rainbow	No
26. <i>Villosa fabalis</i> ^b	rayed bean	No
27. <i>Lampsilis radiata luteola</i>	fat mucket	Yes
28. <i>Lampsilis cardium</i>	pocketbook	No
29. <i>Lampsilis fasciola</i> ^c	wavy-rayed lampmussel	No

a – Ohio and US endangered, b – Ohio endangered and US prelisting, c – Ohio endangered, d – Ohio threatened, e – Ohio species of concern

Table 3. Distribution of mussels collected from Eagle Creek during the current study in the vicinity of Findlay, Ohio. Numbers based on total mussels collected – all methods.

Species	Upstream			Downstream		
	L	D	S	L	D	S
1. <i>A. ferussacianus</i>	0	3	--	0	2	--
2. <i>S. undulatus</i>	0	3	--	--	--	--
3. <i>L. complanata</i>	9	5	--	--	--	--
4. <i>A. plicata</i>	2	8	--	--	--	--
5. <i>F. flava</i>	0	2	--	--	--	--
6. <i>L. fragilis</i>	1	0	--	--	--	--
7. <i>L. r. luteola</i>	7	11	--	4	1	--
Total live mussels	19			4		

a – Ohio and US endangered, b – Ohio endangered and US prelisting, c – Ohio endangered, d – Ohio threatened, e – Ohio species of concern. Upstream and downstream refer to a sewer line break emptying into Eagle Creek. The break is at 41°00'12.54"N 83°38'37.32"W and it enters the stream at 41°00'11.10"N 83°38'39.78"W. L – live, D – freshly dead shells (L+D = extant); S – weathered + subfossil shells = extirpated.

Table 4. Distribution of mussels from the Blanchard River during the current study in the vicinity of Findlay, Ohio.

Species	1			2			3			4			5			6		
	L	D	S	L	D	S	L	D	S	L	D	S	L	D	S	L	D	S
1. <i>U. imbecillis</i>	0	2	--	1	5	--	0	2	--	0	3	--	0	2	--	--	--	--
2. <i>P. grandis</i>	1	3	--	3	4	--	--	--	--	8	17	--	0	9	--	1	1	--
3. <i>A. ferussacianus</i>	0	3	--	2	2	--	--	--	--	--	--	--	--	--	--	--	--	--
4. <i>S. undulatus</i>	--	--	--	0	2	--	--	--	--	0	1	--	0	1	--	0	0	1
5. <i>A. marginata</i> ^c	0	1	--	3	2	--	--	--	--	0	2	--	--	--	--	--	--	--
6. <i>L. costata</i>	--	--	--	1	0	--	--	--	--	--	--	--	--	--	--	10	1	--
7. <i>L. complanata</i>	13	6	--	17	23	--	4	2	--	90	4	--	0	4	--	5	0	--
8. <i>L. compressa</i> ^c	--	--	--	15	6	--	--	--	--	1	0	--	--	--	--	--	--	--
9. <i>S. ambigua</i> ^c	0	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10. <i>A. plicata</i>	0	1	--	1	0	--	--	--	--	--	--	--	--	--	--	--	--	--
11. <i>Q. quadrula</i>	2	1	--	3	2	--	0	5	--	1	66	--	--	--	--	--	--	--
12. <i>Q. pustulosa</i>	--	--	--	0	1	--	0	1	--	0	2	--	--	--	--	--	--	--
13. <i>P. clava</i> ^a	0	0	6	0	0	1	--	--	--	--	--	--	--	--	--	--	--	--
14. <i>F. flava</i>	--	--	--	1	0	--	--	--	--	--	--	--	--	--	--	--	--	--
15. <i>E. dilatata</i>	--	--	--	1	0	--	--	--	--	--	--	--	--	--	--	3	8	--
16. <i>U. tetralasmus</i> ^d	--	--	--	--	--	--	--	--	--	--	--	--	0	0	1	--	--	--
17. <i>P. fasciolaris</i> ^c	--	--	--	0	1	--	0	1	--	--	--	--	--	--	--	13	3	--
18. <i>L. fragilis</i>	0	5	--	52	38	--	--	--	--	0	4	--	0	1	--	21	6	--
19. <i>P. alatus</i>	4	1	--	6	2	--	--	--	--	0	1	--	--	--	--	--	--	--
20. <i>T. truncata</i> ^c	6	15	--	25	15	--	1	10	--	0	86	--	0	5	--	--	--	--
21. <i>T. lividus</i> ^c	0	0	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
22. <i>T. parvum</i>	--	--	--	--	--	--	--	--	--	0	0	2	--	--	--	--	--	--
23. <i>O. subrotunda</i>	0	0	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24. <i>L. recta</i> ^d	--	--	--	--	--	--	--	--	--	1	0	--	--	--	--	--	--	--
25. <i>V. iris</i>	0	0	1	0	0	1	--	--	--	--	--	--	--	--	--	0	0	1
26. <i>V. fabalis</i> ^b	0	0	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
27. <i>L. r. luteola</i>	9	1	--	17	3	--	1	1	--	--	--	--	0	2	--	19	9	--
28. <i>L. cardium</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	1
29. <i>L. fasciola</i> ^c	--	--	--	0	0	1	--	--	--	--	--	--	--	--	--	--	--	--
Total live mussels	35			248			6			101			0			72		

a – Ohio and US endangered, b – Ohio endangered and US prelisting, c – Ohio endangered, d – Ohio threatened, e – Ohio species of concern. 1 – CR 128 to TR 139; 2 – TR 139 to CR 140; 3 – CR 140 to IR 75; 4 – IR 75 to first dam; 5 – between dams in Findlay; 6 – immediately downstream of SR 568. L – live, D – freshly dead shells (L+D = extant); S – weathered + subfossil shells = extirpated.

Table 5. Water chemistry of the Blanchard River and Eagle Creek during the time of this study; 3 & 5 October 2009.

Parameter	Blanchard River					Eagle Creek	Units
	1	2 & 3	4	5	6	U/D	
3 October 2009							
Water Temperature	14.0	14.7	15.6	14.1	12.8	13.4	°C
Conductivity	636	671	720	638	698	862	µS/cm
Turbidity	16.1	11.5	11.3	13.2	13.4	8.4	NTU
Oxygen	7.29	7.58	7.93	7.26	8.17	5.67	mg/l
PH	7.90	7.83	7.84	7.93	8.00	7.87	
5 October 2009							
Water Temperature	11.7	12.7	13.1	12.2	11.7	11.9	°C
Conductivity	768	688	506	773	874	1080	µS/cm
Turbidity	4.8	11.2	13.8	15.2	12.6	7.1	NTU
Oxygen	7.95	7.53	7.53	7.50	8.72	4.69	mg/l
PH	7.79	7.81	7.99	7.96	8.16	7.85	

1 – CR 128 to TR 139; 2 – TR 139 to CR 140; 3 – CR 140 to IR 75; 4 – IR 75 to first dam; 5 – between dams in Findlay; 6 – immediately downstream of SR 568; U/D at the point that separated upstream from downstream.

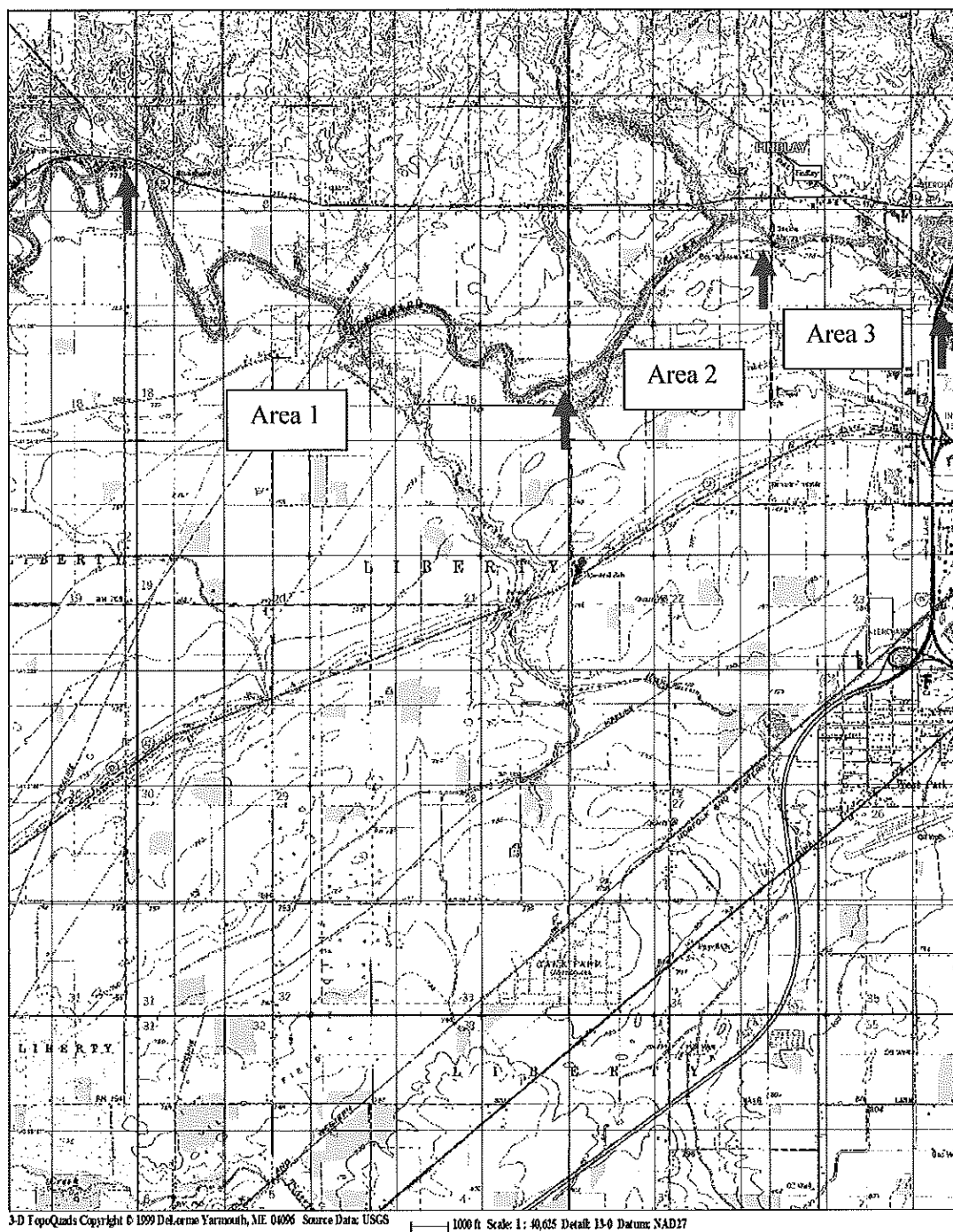


Figure 1. Map of the western half of the study area showing three reaches sampled from the Blanchard River: Areas 1 - 3.

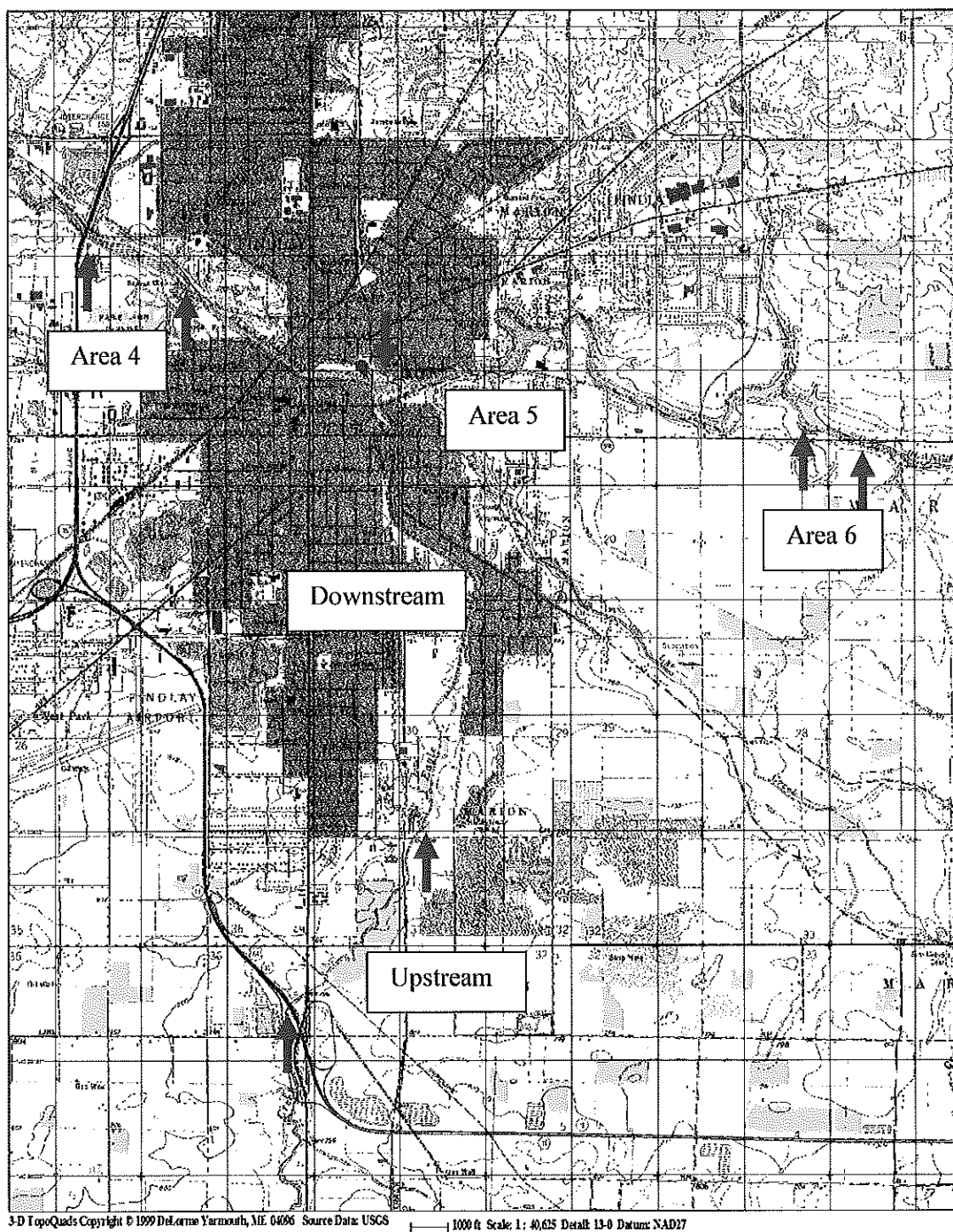


Figure 2. Map of the eastern half of the study area showing four reaches sampled from the Blanchard River (Areas 3 – 6) and the two reaches sampled from Eagle Creek.

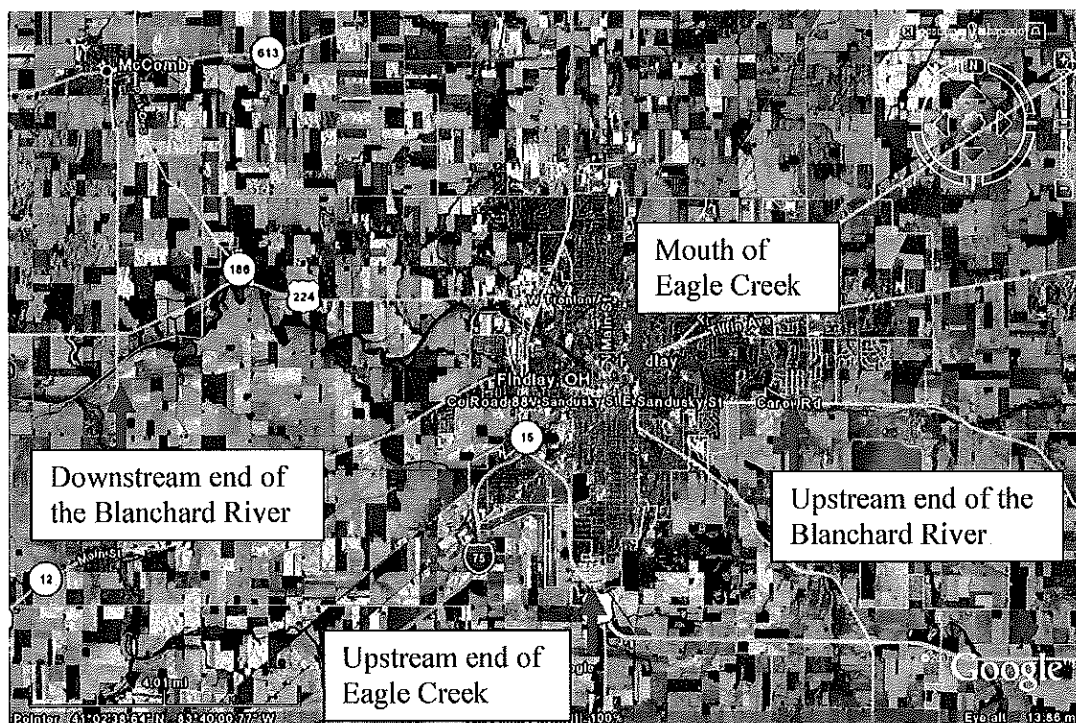


Figure 3. Aerial photograph of the Blanchard River and Eagle Creek in Findlay showing the reaches sampled during this study.

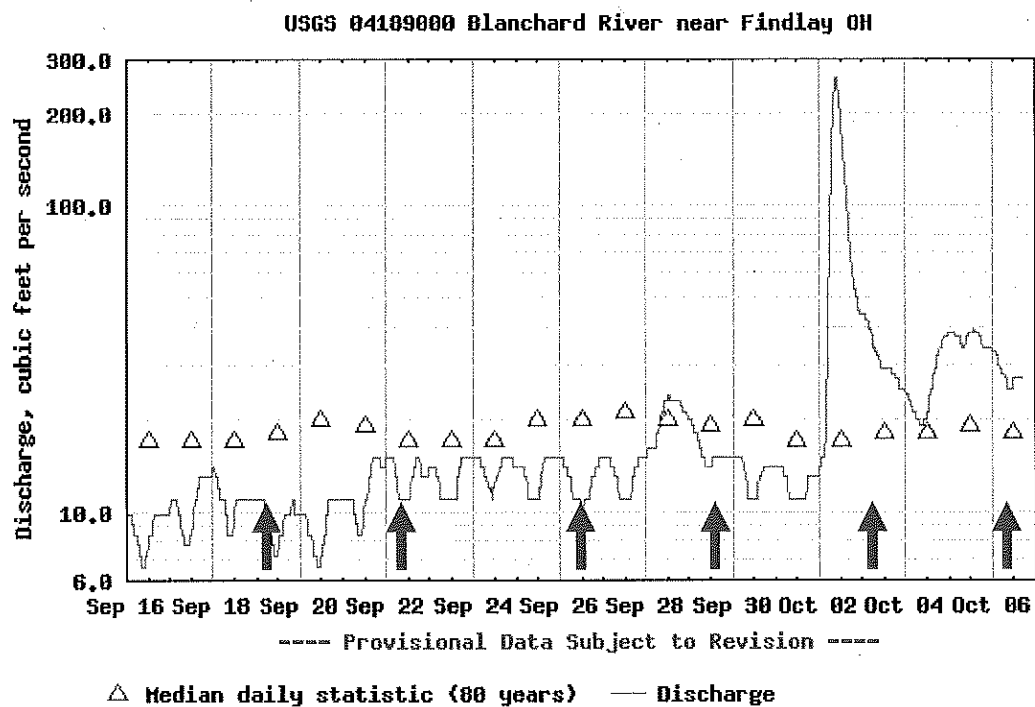


Figure 4. Stream gage data for the Blanchard River in Findlay during the time of this study; 19-22 September, 26-29 September, & 3-6 October.



Figure 5. Photograph of Area 1: the Blanchard River from CR 128 to TR 139.



Figure 6. Photograph of Area 2: the Blanchard River from TR 139 to CR 140.



Figure 7. Photograph of Area 3: the Blanchard River from CR 140 to IR 75. The right foreground shows the entry of the city of Findlay's wastewater treatment plant outflow.



Figure 8. Photograph of Area 4: the Blanchard River from IR 75 to the first dam in Findlay. This photograph shows the rip-rap dam under low water conditions.



Figure 9. Photograph of Area 5: the Blanchard River between dams in Findlay



Figure 10. Photograph of Area 6: the Blanchard River in the vicinity of SR 568.



Figure 11. Photograph of Eagle Creek within the upstream area.



Figure 12. Photograph of Eagle Creek within the downstream area.



Figure 13. Composite photograph of the sewer line break and outfall into Eagle Creek at 41°00'12.59"N by 83°38'37.32"W and 41°00'11.10"N by 83°38'39.78"W, respectively.

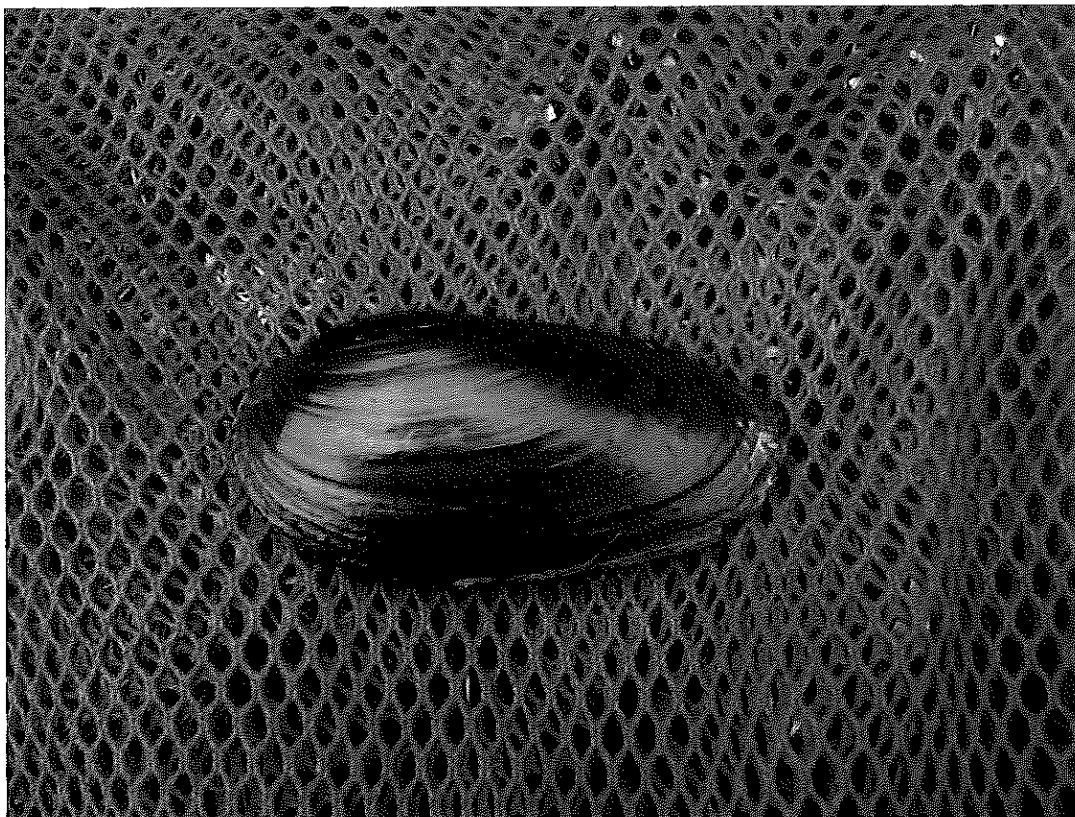


Figure 14. Specimen of *Ligumia recta* collected from Area 3. *Ligumia recta* is an Ohio threatened species.

APPENDIX 1
Morphometric Data

Appendix 1 – Morphometric data from quadrat samples and from general collecting

Blanchard River Reach 1 - CR 128 to TR 139 – mussels collected by general collecting

Species	Length ^a	Height ^a	Width ^a
1. <i>Truncilla truncata</i>	45	34	22
2. <i>Lasmigona complanata</i>	77	57	17
3. <i>Lasmigona complanata</i>	103	78	23
4. <i>Quadrula quadrula</i>	43	30	19
5. <i>Truncilla truncata</i>	44	28	19

Blanchard River Reach 2 - TR 139 to CR 140 – Transect 1, Quadrats 1-20

Quadrat 1 – no mussels

Quadrat 2

1. <i>Leptodea fragilis</i>	52	31	17
2. <i>Lasmigona complanata</i>	122	84	32

Quadrat 3 – no mussels

Quadrat 4 – no mussels

Quadrat 5

3. <i>Potamilus alatus</i>	117	85	50
4. <i>Truncilla truncata</i>	71	45	32
5. <i>Potamilus alatus</i>	103	62	39

Quadrat 6

6. <i>Truncilla truncata</i>	53	39	26
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Quadrat 7

7. <i>Truncilla truncata</i>	64	42	30
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Quadrat 8 – no mussels

Quadrat 9 – no mussels

Quadrat 10

8. <i>Truncilla truncata</i>	71	53	38
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Quadrat 11

9. <i>Lampsilis radiata luteola</i>	78	43	30
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Quadrat 12

10. <i>Leptodea fragilis</i>	96	56	32
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Quadrat 13

11. <i>Lasmigona complanata</i>	140	99	40
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Quadrat 14

12. <i>Alasmidonta marginata</i>	75	40	33
13. <i>Lasmigona complanata</i>	150	104	40
14. <i>Truncilla truncata</i>	67	46	36

Quadrat 15 – no mussels

Quadrat 16 – no mussels

Quadrat 17

15. <i>Lasmigona complanata</i>	145	101	41
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Quadrat 18			
16.	<i>Lampsilis radiata luteola</i>	100	53 40
Quadrat 19			
17.	<i>Lasmigona complanata</i>	88	61 24
18.	<i>Lampsilis radiata luteola</i>	92	50 34
Quadrat 20			
19.	<i>Lampsilis radiata luteola</i>	106	58 39

Blanchard River Reach 2 - TR 139 to CR 140 – Transect 2, Quadrats 1-20

Quadrat 1			
1.	<i>Leptodea fragilis</i>	101	60 33
Quadrat 2			
2.	<i>Potamilus alatus</i>	97	70 39
Quadrat 3			
3.	<i>Truncilla truncata</i>	71	52 35
Quadrat 4			
4.	<i>Lasmigona complanata</i>	131	87 37
5.	<i>Leptodea fragilis</i>	47	27 15
6.	<i>Truncilla truncata</i>	65	42 31
Quadrat 5 – no mussels			
Quadrat 6			
7.	<i>Lasmigona complanata</i>	116	80 31
Quadrat 7			
8.	<i>Lasmigona compressa</i>	74	40 21
Quadrat 8 – no mussels			
Quadrat 9			
9.	<i>Lasmigona complanata</i>	110	80 27
Quadrat 10			
10.	<i>Truncilla truncata</i>	65	45 31
Quadrat 11			
11.	<i>Lasmigona complanata</i>	151	102 45
12.	<i>Lasmigona compressa</i>	105	58 35
Quadrat 12 – no mussels			
Quadrat 13			
13.	<i>Lasmigona complanata</i>	138	94 40
Quadrat 14 – no mussels			
Quadrat 15			
14.	<i>Lasmigona complanata</i>	139	91 35
15.	<i>Lasmigona complanata</i>	105	66 25
Quadrat 16 – no mussels			
Quadrat 17			
16.	<i>Lasmigona compressa</i>	103	56 29
Quadrat 18			
17.	<i>Leptodea fragilis</i>	100	60 34

Quadrat 19			
18. <i>Lasmigona complanata</i>	138	90	39
Quadrat 20 – no mussels			

Blanchard River Reach 2 - TR 139 to CR 140 – Transect 3, Quadrats 1-10

Quadrat 1 – no mussels			
Quadrat 2 – no mussels			
Quadrat 3 – no mussels			
Quadrat 4 – no mussels			
Quadrat 5 – no mussels			
Quadrat 6 – no mussels			
Quadrat 7 – no mussels			
Quadrat 8			
1. <i>Quadrula quadrula</i>	79	57	40
Quadrat 9 – no mussels			
Quadrat 10 – no mussels – transect abandoned due to so few mussels; data not used to determine mussel density			

Blanchard River Reach 2 – TR 129 to CR 140 – Transect 4, Quadrats 1-20

Quadrat 1 – no mussels			
Quadrat 2 – no mussels			
Quadrat 3 – no mussels			
Quadrat 4			
1. <i>Lasmigona complanata</i>	136	97	38
Quadrat 5 – no mussels			
Quadrat 6 – no mussels			
Quadrat 7 – no mussels			
Quadrat 8 – no mussels			
Quadrat 9 – no mussels			
Quadrat 10 – no mussels			
Quadrat 11 – no mussels			
Quadrat 12			
2. <i>Truncilla truncata</i>	66	48	34
Quadrat 13 – no mussels			
Quadrat 14 – no mussels			
Quadrat 15 – no mussels			
Quadrat 16			
3. <i>Lasmigona complanata</i>	146	98	40
4. <i>Lampsilis radiata luteola</i>	104	55	36
Quadrat 17 – no mussels			
Quadrat 18 – no mussels			
Quadrat 19 – no mussels			
Quadrat 20 – no mussels			

Blanchard River Reach 2 – TR 129 – CR 140 – First 100 mussels found

Search for first 100 specimens (summary – see morphometric data below)

Species	#		
1. <i>Pyganodon grandis</i>	2		
2. <i>Lasmigona complanata</i>	75		
3. <i>Lasmigona compressa</i>	5		
4. <i>Truncilla truncata</i>	6		
5. <i>Leptodea fragilis</i>	6		
6. <i>Potamilus alatus</i>	1		
7. <i>Lampsilis radiata luteola</i>	5		
1. <i>Lasmigona complanata</i>	155	111	45
2. <i>Lasmigona complanata</i>	134	99	34
3. <i>Pyganodon grandis</i>	111	64	34
4. <i>Lasmigona complanata</i>	160	107	43
5. <i>Lasmigona complanata</i>	144	102	40
6. <i>Lasmigona complanata</i>	173	110	49
7. <i>Lasmigona complanata</i>	160	113	42
8. <i>Lasmigona complanata</i>	133	95	35
9. <i>Lasmigona complanata</i>	150	96	44
10. <i>Lasmigona complanata</i>	145	99	40
11. <i>Lasmigona complanata</i>	178	122	52
12. <i>Lasmigona complanata</i>	130	89	36
13. <i>Truncilla truncata</i>	70	45	31
14. <i>Truncilla truncata</i>	66	45	35
15. <i>Lasmigona compressa</i>	75	41	20
16. <i>Lasmigona complanata</i>	110	81	28
17. <i>Lasmigona complanata</i>	139	95	40
18. <i>Lasmigona complanata</i>	145	100	40
19. <i>Lasmigona complanata</i>	141	99	40
20. <i>Lasmigona complanata</i>	123	84	32
21. <i>Lasmigona complanata</i>	200	128	50
22. <i>Lasmigona complanata</i>	151	101	36
23. <i>Lasmigona complanata</i>	147	108	40
24. <i>Lasmigona complanata</i>	152	100	43
25. <i>Lasmigona complanata</i>	160	109	46
26. <i>Leptodea fragilis</i>	100	62	32
27. <i>Potamilus alatus</i>	118	86	50
28. <i>Lampsilis radiata luteola</i>	78	44	31
29. <i>Lasmigona complanata</i>	140	99	41
30. <i>Lasmigona complanata</i>	152	110	41
31. <i>Lasmigona complanata</i>	152	111	40
32. <i>Lasmigona complanata</i>	170	111	45
33. <i>Lasmigona complanata</i>	140	100	42
34. <i>Lasmigona complanata</i>	178	121	52

35.	<i>Lasmigona compressa</i>	75	41	22
36.	<i>Lasmigona compressa</i>	103	92	40
37.	<i>Lasmigona complanata</i>	134	90	34
38.	<i>Lasmigona complanata</i>	175	128	46
39.	<i>Leptodea fragilis</i>	101	60	35
40.	<i>Lasmigona complanata</i>	158	110	39
41.	<i>Lasmigona complanata</i>	146	104	39
42.	<i>Lasmigona complanata</i>	146	110	39
43.	<i>Lasmigona complanata</i>	168	114	45
44.	<i>Lasmigona complanata</i>	142	96	47
45.	<i>Pyganodon grandis</i>	133	75	48
46.	<i>Leptodea fragilis</i>	101	60	34
47.	<i>Lasmigona compressa</i>	105	59	35
48.	<i>Lasmigona complanata</i>	144	98	34
49.	<i>Lasmigona complanata</i>	135	99	35
50.	<i>Lasmigona complanata</i>	151	109	44
51.	<i>Lasmigona complanata</i>	139	98	41
52.	<i>Lasmigona complanata</i>	159	110	44
53.	<i>Lasmigona complanata</i>	165	112	46
54.	<i>Lasmigona complanata</i>	148	102	44
55.	<i>Lasmigona complanata</i>	154	107	45
56.	<i>Lasmigona complanata</i>	160	105	41
57.	<i>Lasmigona complanata</i>	161	115	41
58.	<i>Lasmigona complanata</i>	151	110	45
59.	<i>Lasmigona complanata</i>	134	90	34
60.	<i>Lasmigona complanata</i>	145	107	44
61.	<i>Lasmigona complanata</i>	175	130	45
62.	<i>Lasmigona complanata</i>	152	105	39
63.	<i>Lasmigona complanata</i>	145	105	39
64.	<i>Lasmigona compressa</i>	80	43	26
65.	<i>Lampsilis radiata luteola</i>	80	44	31
66.	<i>Leptodea fragilis</i>	100	60	35
67.	<i>Truncilla truncata</i>	45	35	23
68.	<i>Lasmigona complanata</i>	78	56	18
69.	<i>Lasmigona complanata</i>	115	80	30
70.	<i>Lasmigona complanata</i>	141	100	32
71.	<i>Lasmigona complanata</i>	200	130	48
72.	<i>Lasmigona complanata</i>	152	110	43
73.	<i>Lasmigona complanata</i>	147	110	34
74.	<i>Lasmigona complanata</i>	177	111	45
75.	<i>Lasmigona complanata</i>	140	100	43
76.	<i>Truncilla truncata</i>	44	30	20
77.	<i>Truncilla truncata</i>	33	25	15
78.	<i>Lasmigona complanata</i>	165	115	47
79.	<i>Lasmigona complanata</i>	151	110	45
80.	<i>Lampsilis radiata luteola</i>	107	60	40

81.	<i>Truncilla truncata</i>	46	31	21
82.	<i>Lampsilis radiata luteola</i>	100	55	41
83.	<i>Lasmigona complanata</i>	145	99	43
84.	<i>Lasmigona complanata</i>	160	115	47
85.	<i>Lampsilis radiata luteola</i>	77	40	28
86.	<i>Leptodea fragilis</i>	95	55	31
87.	<i>Leptodea fragilis</i>	96	55	32
88.	<i>Lasmigona complanata</i>	151	100	34
89.	<i>Lasmigona complanata</i>	141	101	31
90.	<i>Lasmigona complanata</i>	152	100	43
91.	<i>Lasmigona complanata</i>	160	110	48
92.	<i>Lasmigona complanata</i>	163	110	46
93.	<i>Lasmigona complanata</i>	147	102	44
94.	<i>Lasmigona complanata</i>	154	107	45
95.	<i>Lasmigona complanata</i>	155	111	45
96.	<i>Lasmigona complanata</i>	144	99	34
97.	<i>Lasmigona complanata</i>	150	96	45
98.	<i>Lasmigona complanata</i>	144	97	41
99.	<i>Lasmigona complanata</i>	134	83	40
100.	<i>Lasmigona complanata</i>	160	109	46

Blanchard River Reach 3 – CR 140 to IR 75 – Transect 5, Quadrats 1-20

Quadrat 1				
1.	<i>Lasmigona complanata</i>	93	66	26
Quadrat 2 – no mussels				
Quadrat 3 – no mussels				
Quadrat 4 – no mussels				
Quadrat 5 – no mussels				
Quadrat 6				
2.	<i>Elliptio dilatata</i>	67	30	18
Quadrat 7 – no mussels				
Quadrat 8				
3.	<i>Truncilla truncata</i>	35	28	17
Quadrat 9 – no mussels				
Quadrat 10 – no mussels				
Quadrat 11 – no mussels				
Quadrat 12 – no mussels				
Quadrat 13 – no mussels				
Quadrat 14 – no mussels				
Quadrat 15				
4.	<i>Potamilus alatus</i>	70	47	27
Quadrat 16 – no mussels				
Quadrat 17 – no mussels				
Quadrat 18 – no mussels				

Quadrat 19

5. <i>Pyganodon grandis</i>	82	45	28
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Quadrat 20 – no mussels

Blanchard River Reach 4 - IR 75 to the first dam upstream of the IR 75 Bridge – First 100 mussels found

Live mussel found on shore prior to search for 100 mussels

1. <i>Ligumia recta</i>	112	54	38
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Search for first 100 specimens (summary – see morphometric data below)

Species	#		
1. <i>Pyganodon grandis</i>	8		
2. <i>Lasmigona complanata</i>	90		
3. <i>Lasmigona compressa</i>	1		
4. <i>Quadrula quadrula</i>	1		
1. <i>Lasmigona complanata</i>	160	109	47
2. <i>Pyganodon grandis</i>	112	64	33
3. <i>Lasmigona complanata</i>	142	97	40
4. <i>Quadrula quadrula</i>	57	47	27
5. <i>Lasmigona complanata</i>	163	110	45
6. <i>Lasmigona complanata</i>	160	107	44
7. <i>Lasmigona complanata</i>	159	109	43
8. <i>Lasmigona complanata</i>	160	108	49
9. <i>Lasmigona complanata</i>	165	113	45
10. <i>Lasmigona complanata</i>	160	114	44
11. <i>Lasmigona complanata</i>	147	103	44
12. <i>Lasmigona complanata</i>	139	97	40
13. <i>Pyganodon grandis</i>	114	62	44
14. <i>Lasmigona complanata</i>	146	104	42
15. <i>Lasmigona complanata</i>	153	107	45
16. <i>Lasmigona complanata</i>	147	99	43
17. <i>Lasmigona complanata</i>	160	104	41
18. <i>Lasmigona complanata</i>	170	107	48
19. <i>Lasmigona complanata</i>	161	115	41
20. <i>Lasmigona complanata</i>	160	113	39
21. <i>Lasmigona complanata</i>	170	116	46
22. <i>Lasmigona complanata</i>	151	109	45
23. <i>Lasmigona complanata</i>	155	111	44
24. <i>Lasmigona complanata</i>	151	108	43
25. <i>Lasmigona complanata</i>	135	97	35
26. <i>Lasmigona complanata</i>	148	99	40
27. <i>Lasmigona complanata</i>	144	98	35

28.	<i>Lasmigona compressa</i>	96	55	30
29.	<i>Pyganodon grandis</i>	100	59	43
30.	<i>Lasmigona complanata</i>	150	95	44
31.	<i>Lasmigona complanata</i>	145	104	38
32.	<i>Lasmigona complanata</i>	149	107	38
33.	<i>Lasmigona complanata</i>	166	110	54
34.	<i>Lasmigona complanata</i>	146	109	36
35.	<i>Lasmigona complanata</i>	145	97	42
36.	<i>Lasmigona complanata</i>	153	110	45
37.	<i>Lasmigona complanata</i>	163	115	45
38.	<i>Pyganodon grandis</i>	138	79	49
39.	<i>Lasmigona complanata</i>	154	103	40
40.	<i>Lasmigona complanata</i>	141	91	45
41.	<i>Lasmigona complanata</i>	167	114	46
42.	<i>Lasmigona complanata</i>	142	95	47
43.	<i>Pyganodon grandis</i>	144	77	56
44.	<i>Lasmigona complanata</i>	153	121	41
45.	<i>Lasmigona complanata</i>	146	109	39
46.	<i>Lasmigona complanata</i>	168	115	47
47.	<i>Lasmigona complanata</i>	146	104	38
48.	<i>Lasmigona complanata</i>	150	105	38
49.	<i>Lasmigona complanata</i>	145	102	32
50.	<i>Lasmigona complanata</i>	143	92	40
51.	<i>Lasmigona complanata</i>	134	83	39
52.	<i>Lasmigona complanata</i>	146	104	39
53.	<i>Lasmigona complanata</i>	151	108	40
54.	<i>Lasmigona complanata</i>	160	108	47
55.	<i>Lasmigona complanata</i>	160	112	43
56.	<i>Lasmigona complanata</i>	177	121	53
57.	<i>Lasmigona complanata</i>	142	97	39
58.	<i>Lasmigona complanata</i>	146	94	47
59.	<i>Lasmigona complanata</i>	163	107	49
60.	<i>Lasmigona complanata</i>	158	109	38
61.	<i>Lasmigona complanata</i>	160	110	45
62.	<i>Pyganodon grandis</i>	112	64	46
63.	<i>Lasmigona complanata</i>	139	100	42
64.	<i>Lasmigona complanata</i>	165	115	50
65.	<i>Pyganodon grandis</i>	114	67	46
66.	<i>Lasmigona complanata</i>	175	111	45
67.	<i>Lasmigona complanata</i>	150	105	43
68.	<i>Lasmigona complanata</i>	147	113	35
69.	<i>Lasmigona complanata</i>	170	113	44
70.	<i>Lasmigona complanata</i>	160	110	38
71.	<i>Lasmigona complanata</i>	165	115	48
72.	<i>Lasmigona complanata</i>	139	101	35
73.	<i>Lasmigona complanata</i>	151	110	43

74.	<i>Lasmigona complanata</i>	152	110	35
75.	<i>Pyganodon grandis</i>	109	57	41
76.	<i>Lasmigona complanata</i>	204	131	50
77.	<i>Lasmigona complanata</i>	166	108	45
78.	<i>Lasmigona complanata</i>	151	100	35
79.	<i>Lasmigona complanata</i>	160	107	46
80.	<i>Lasmigona complanata</i>	141	102	31
81.	<i>Lasmigona complanata</i>	148	107	41
82.	<i>Lasmigona complanata</i>	152	102	42
83.	<i>Lasmigona complanata</i>	125	89	32
84.	<i>Lasmigona complanata</i>	145	96	43
85.	<i>Lasmigona complanata</i>	147	103	31
86.	<i>Lasmigona complanata</i>	182	115	55
87.	<i>Lasmigona complanata</i>	145	105	38
88.	<i>Lasmigona complanata</i>	175	125	52
89.	<i>Lasmigona complanata</i>	153	106	45
90.	<i>Lasmigona complanata</i>	152	104	38
91.	<i>Lasmigona complanata</i>	146	102	37
92.	<i>Lasmigona complanata</i>	140	100	35
93.	<i>Lasmigona complanata</i>	160	107	43
94.	<i>Lasmigona complanata</i>	173	128	45
95.	<i>Lasmigona complanata</i>	143	103	40
96.	<i>Lasmigona complanata</i>	145	106	43
97.	<i>Lasmigona complanata</i>	166	108	48
98.	<i>Lasmigona complanata</i>	145	101	42
99.	<i>Lasmigona complanata</i>	136	96	38
100.	<i>Lasmigona complanata</i>	134	91	34

a – all measurements in mm

3.0 Cultural Resources

3.1 Cultural Resources Consultation

Consultation has been initiated with federally recognized Native American tribes, the Ohio's State Historic Preservation Office (SHPO) and the general public. Through on-going coordination it has been determined the project has the potential to effect historic properties. As many study areas still require cultural resources investigation, further consultation need to be outlined in a Programmatic Agreement (PA) between consulting parties to address future phased investigations and project effects to historic properties. The PA would be completed prior to implementation of the selected alternative. A draft PA is provided for reference in Section 5.5 of this Appendix.

Consultation for this study has included using both correspondence and meetings to seek input on cultural resources. Correspondence has been sent to Indian Nations, Ohio SHPO and others who were identified through the study process as potential consulting parties. This method seeks not only to solicit any information these agencies/individuals have on cultural resources present within the study area but also to develop a list of consulting parties for participation in the National Historic Preservation Act's (NHPA) Section 106 process. Meetings have also been used for these purposes and also to provide a forum for discussion among all interested parties as cultural resources are identified, determined eligible (or not) for listing on the National Register of Historic Places (NRHP), and determinations are made on project effects to NRHP eligible or listed cultural resources.

To date Buffalo District USACE has notified eight Indian nations that have had an historical presence in the watershed and have invited them to be consulting parties during the Section 106 consultation process (Table 3.1). Letters were sent to these Nations in December 2012 and June 2014. The Wyandotte Nation is the only organization so far to formally request status as a consulting party. The USACE will continue to consult with these Nations concerning their interests as the study progresses and additional information on cultural resources becomes available. An on-site meeting will be conducted in 2015 with the Wyandotte Nation and other interested consulting parties to engage them in the formulation of a Programmatic Agreement to address phased investigations and project effects to historic properties.

Consultation with Ohio SHPO was initiated in 2009 through a series of meetings. These occurred on: 5-6 August 2009; 15-16 December 2009; 3-5 May 2010; 14-16 February 2012; 16-17 October 2012; 10-11 September 2013; and 16 July 2014. Discussions included project purpose, scope and schedule as well as the need to pursue Section 106 compliance via a PA due to the lack of access required to complete field studies. The Ohio SHPO expressed concern at these meetings with the uncertainty in identifying potential architectural and archeological sites of interest due to difficulty in obtaining rights of entry. Development and execution of a PA to address this concern was one outcome of these meetings. Review of cultural resources reports and input on the NRHP eligibility of identified cultural resources will be requested in the near future.

Table 3.1 Federally Recognized Tribes with Interest in the Study Area	
Miami	Miami Tribe of Oklahoma
Ottawa	Little River Band of Ottawa Indians, Michigan Little Traverse Bay Bands of Odawa Indians, Michigan Ottawa Tribe of Oklahoma
Shawnee	Absentee-Shawnee Tribe of Indians of Oklahoma Eastern Shawnee Tribe of Oklahoma Shawnee Tribe, Oklahoma
Wyandotte	Wyandotte Nation, Oklahoma

Names reflect those of Federally recognized tribes as currently listed by the Bureau of Indian Affairs. These names may vary from the official name attributed by each individual government.

In addition to the Wyandotte Nation, the USACE has also invited another 13 agencies and organizations to be consulting parties during the Section 106 consultation process (Table 3.2). Letters will be sent to these groups asking if they would like to participate as consulting parties and/or if they have any information on cultural resources in the study area that should be considered in the project decision making process. Meetings will also be convened with the consulting parties to engage them in the formulation of a PA to address phased investigations and project effects to historic properties.

Table 3.2 Agencies and Individuals with Interest in the Study Area
Wyandotte Nation
Ohio State Historic Preservation Office
Hancock Historical Museum Association
Northwest Ohio Railroad Preservation, Inc.
Western Lake Erie Historical Society
The Ohio Archaeological Council
Ohio History Connection

Table 3.2 Agencies and Individuals with Interest in the Study Area

City of Findlay
Liberty Township
Eagle Township
Jackson Township
Marion Township
Amanda Township

3.2 Area of Potential Effects Summary

Regarding cultural resources considerations during a federal undertaking, the Area of Potential Effects (APE) is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (e.g., National Register of Historic Places eligible or listed archaeological sites, standing structures, etc.). Depending on the nature of the various project components and the resources that may be affected, the APE may be different for the different kinds of effects caused by the project (Chidester et al., 2009).

The range of structural alternatives considered at one time for this study included levees, floodwalls, reservoirs, flood storage areas, diversion channels, and berms. Structural elevation data for the project, generally proposed structures which ranged in height from 3 to 15 feet. Based on this information, an APE was developed during the cultural resources investigations for the initially considered alternatives. This APE considered both the potential for direct impacts from ground-disturbing activities during construction, including staging areas for heavy equipment and areas of potential flood storage, and wetland/stream mitigation. It also included areas where the introduction of visual elements related to a recommended plan might occur (Johnson et al., 2011; Chidester et al., 2012).

To ensure that the APE for the direct area of impact fully encompassed all possible areas of construction activity, use of a 200-foot buffer around proposed alternatives was developed (Chidester et al., 2011). This same methodology will be utilized to set the direct APE for future cultural resources investigations of the West Diversion Channel (Alternative 2 Alignment), a potential excavated materials disposal area (quarry), and the Blanchard to Lye Cutoff levee (Figure 3.1). The APE used to account for potential visual impacts during the initial cultural resources investigations was developed by performing a simulation study using a flag to determine sight lines. The visual simulations established maximum viewing distances in several typical settings at variable heights throughout the study area. Using this methodology, buffers, were established as follows (unless field conditions dictated otherwise):

- In urban/commercial settings, the maximum viewing distance (from buildings with frontage on the project) was generally no greater than three blocks or 1,650 feet;
- On straight-of-ways in older neighborhoods, the visual limit was approximately four blocks or 1,950 feet;
- In older residential neighborhoods off the straight-of-way, the visual limit was approximately 425 feet (less than one block);
- In residential areas along the river, where the road follows natural features and visibility is more limited, or in subdivisions where streets are not straight, the visual limit was approximately 690 feet; and
- In agricultural settings featuring large expanses of flat, unobstructed land the visual limit was 1,500 feet (Johnson et al., 2011).

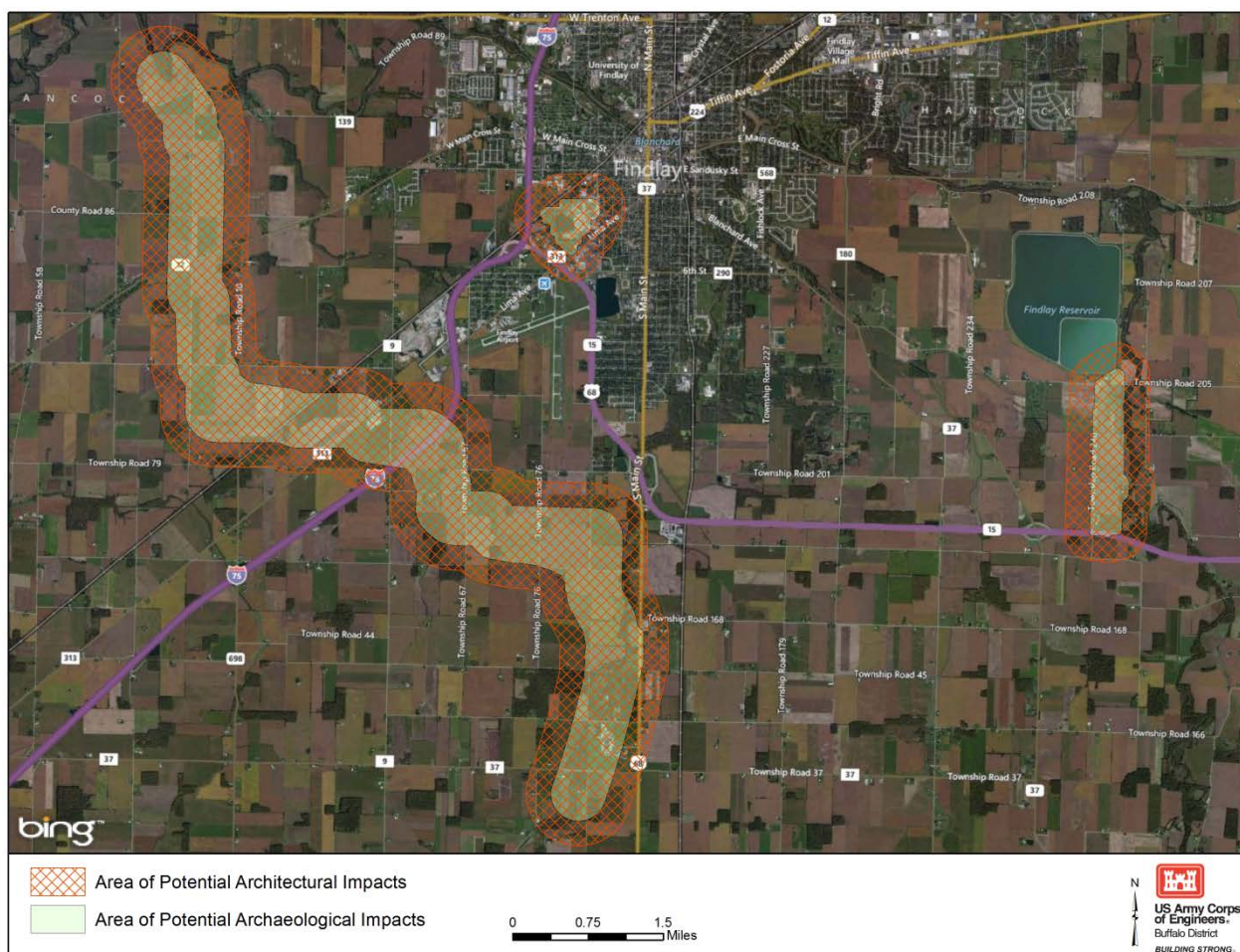


Figure 3.1. Archaeological and Architectural APE within the Project Area.

The Alternative 2 Alignment, the Blanchard to Lye Cutoff levee, and currently proposed mitigation areas primarily occur in agricultural and older residential neighborhood settings. Therefore the

buffers established during the earlier investigations will be utilized, as appropriate, in setting the visual impact APE for these additional alternatives (see Figure 3.1).

As the study alternatives are further refined and additional areas requiring cultural resources investigations are identified, the APE for each type of impact will be reviewed and refined as necessary to insure that all potential effects are considered.

5.3 Phase I Archaeological Report Summary

5.3.1 *Reference Documents*

Chidester, R.C., Bryan P. Agosti, Ryan M. Schumaker and Kate Hayfield. September 2012.

Predictive Model and History/Architecture Research Design for Additional Phase I Cultural Resources Survey, Blanchard River Flood Mitigation Studies, Hancock and Putnam Counties, Ohio. Report submitted to URS Corporation, Cleveland by The Mannik & Smith Group, Inc., Maumee, Ohio.

Chidester, R. C., K. Hayfield, R. T. Botkin, B. N. Smith and K. Wagner. April 2011. *Report of a Phase I Archaeological Reconnaissance Survey in Three Proposed Flood Mitigation Corridors, Findlay (Hancock County) and Ottawa (Putnam County), Ohio.* Report submitted to the Northwest Ohio Flood Mitigation Partnership, Inc., Findlay by The Mannik & Smith Group, Inc., Maumee, Ohio.

5.3.2 *Summary*

After Phase I archaeological surveys had been conducted on initially considered study alternatives, two additional measures, West Diversion Channel (Alternative 2) and the Blanchard to Lye Cutoff levee, were added. Archaeological surveys for the Blanchard River Watershed Study within these additional areas have not yet been completed. These will be completed once the study measures are further refined and rights of entry are obtained. Until this work can be done, so that any project impacts to cultural resources can be fully evaluated, this requirement will be addressed in the PA being prepared. The PA being coordinated with the Ohio SHPO and other consulting parties will outline how the applicable study areas will be investigated and, if necessary, mitigated in the future. A preliminary draft of the PA is presented in Section 5.5 of this Appendix.

Literature reviews have been completed for the two additional measures. These reviews covered a two mile (3.2 km) buffer around the West Diversion Channel and a three mile (4.8 km) buffer around the Blanchard to Lye Cutoff (Figure 3.2). They were conducted in August, 2012 using the Ohio Historic Preservation Office's Online Mapping website as well as published sources on local prehistory and history. The results of the 2010 Phase I investigation in other areas of the Blanchard River Watershed Study were also included.

These buffered study areas should not be confused with the APE that has been set for each. The intent of the buffered area for literature reviews is to provide a broad based overview of known sites and previous survey work in and near a proposed undertaking. The information gained from the review is utilized to set expectations on the number and type of sites that might be found and to provide regional context for sites located in the APE. The results of the literature reviews for the West Diversion Channel and the Blanchard to Lye Cutoff levee are presented below.

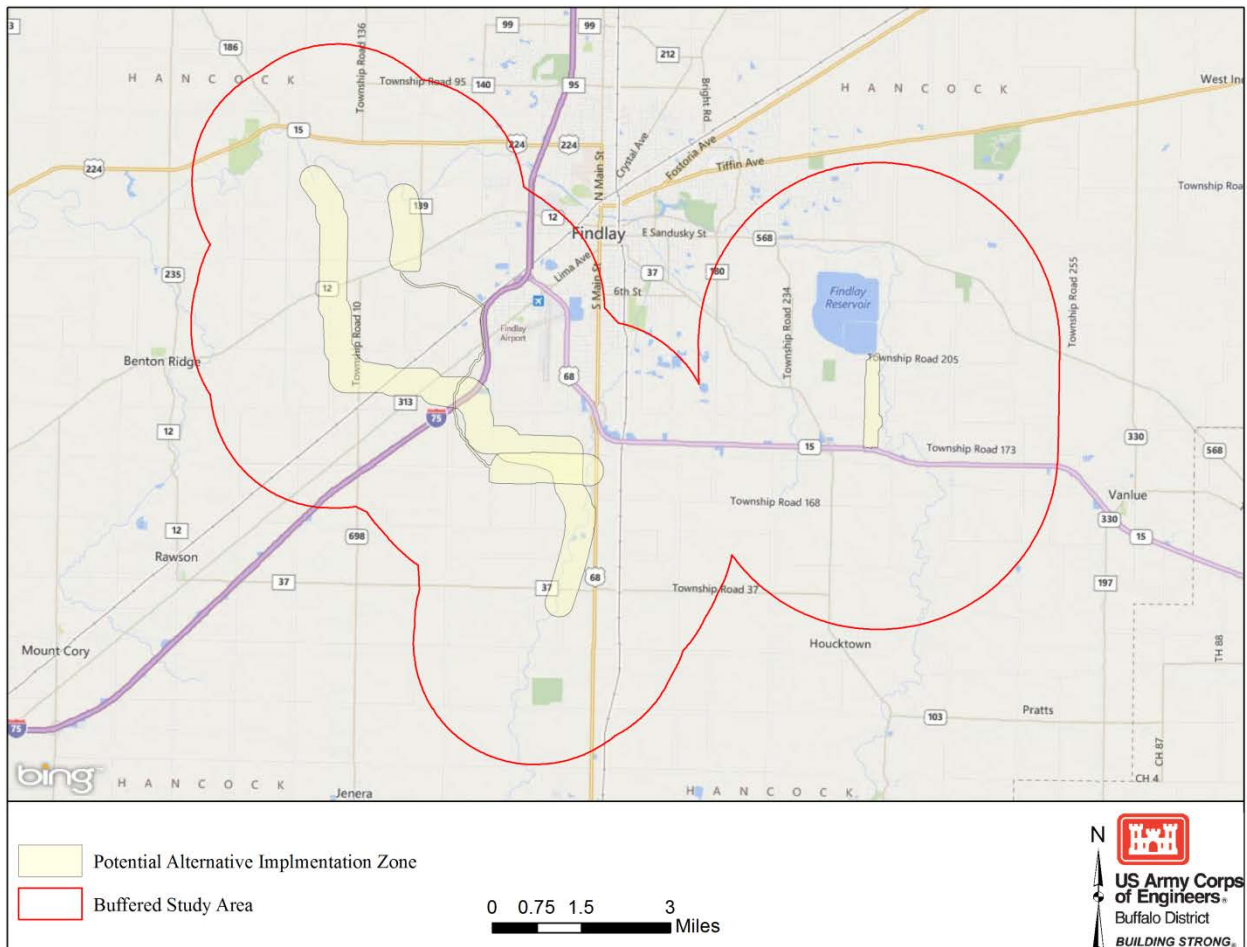


Figure 3.2. Cultural Resources Literature Review Study Area

West Diversion Channel Study Area (Literature Review)

A review of the Ohio Archaeological Inventory (OAI) lists 18 previously recorded archaeological sites within the West Diversion Channel Study Area. Sixteen are prehistoric sites, while one is a historic aboriginal site and one contains both prehistoric and historic (Euro-American) components. An additional 12 previously unrecorded archaeological sites were recorded during the 2010 Phase I investigation for the Blanchard River Watershed Study. Four are historic and eight are multi-component. Sites 33HK0597 and 33HK0598-33HK0599 (Early Archaic) are located adjacent to

the West Diversion Channel. None of these sites have been formally evaluated for NRHP eligibility.

There were also two CRM reports as well as Mills' 1914 atlas on file at the Ohio SHPO that cover portions of the West Diversion Channel Study Area. The CRM reports were both Phase I investigations, one for a proposed park facility and the other for the Findlay Airport Telecommunications Tower. Neither survey intersects the currently proposed study alternative. The Mill's atlas represents a compilation of sites primarily reported by local informants, most of which have never been field-verified by professional archaeologists. Exact locations are often unknown, thus only general locations for resources are referenced. The atlas has two sites recorded in the West Diversion Channel Study Area: a square enclosure and a village site. Both sites are located northwest of the study alternative but the location of neither of these two sites appears to have ever been field verified.

Blanchard to Lye Cutoff Study Area (Literature Review)

A review of the OAI lists ten previously recorded archaeological sites within the Blanchard to Lye Cutoff Study Area. Nine are prehistoric while one is a historic site. An additional two previously unrecorded archaeological sites were recorded during the 2010 Phase I investigation for the Blanchard River Watershed Project. These were comprised of one historic site and one multi-component site. No archaeological sites are located within the current study alternative.

There were also two CRM reports on file at the Ohio SHPO that cover portions of the Blanchard to Lye Cutoff Study Area. The first report was a summary of a cultural resource review for a transportation project in Jackson Township while the second report was for a Phase I archaeological reconnaissance of a sewer project. Neither survey intersects the current study alternative.

5.4 Phase I Architectural Report Summary

5.4.1 Documents

Chidester, R.C., Bryan P. Agosti, Ryan M. Schumaker and Kate Hayfield. September 2012.

Predictive Model and History/Architecture Research Design for Additional Phase I Cultural Resources Survey, Blanchard River Flood Mitigation Studies, Hancock and Putnam Counties, Ohio. Report submitted to URS Corporation, Cleveland by The Mannik & Smith Group, Inc., Maumee, Ohio.

Johnson, M., R. M. Schumaker and R.C. Chidester. July 2011. *Report of a Phase I Architectural Reconnaissance Survey in Three Proposed Flood Mitigation Corridors, Findlay (Hancock County) and Ottawa (Putnam County), Ohio.* Report submitted to the Northwest Ohio Flood Mitigation Partnership, Inc., Findlay by The Mannik & Smith Group, Inc., Maumee, Ohio.

5.4.2 Summary

After Phase I architectural surveys had been conducted on the initially considered study alternatives, two additional measures, West Diversion Channel (Alternative 2) and the Blanchard to Lye Cutoff levee, were added. Architectural surveys for the Blanchard River Watershed Study within these additional areas have not yet been completed. These will be completed once the study measures are further refined and rights of entry are obtained. Until this work can be done, so that any project impacts to cultural resources can be fully evaluated, this requirement will be addressed in the PA being prepared. The PA being coordinated with the Ohio SHPO and other consulting parties will outline how the applicable study areas will be investigated and, if necessary, mitigated in the future.

Literature reviews have been completed for the two additional measures. The reviews covered a two mile (3.2 km) buffer around the West Diversion Channel and a three mile (4.8 km) buffer around the Blanchard to Lye Cutoff (Figure 3.2). They were conducted in August, 2012, using the Ohio Historic Preservation Office's Online Mapping website as well as published sources on local prehistory and history. The results of the 2010 Phase I investigation for the Blanchard River Watershed Study in other areas of the proposed undertaking were also included. The results of the literature reviews for the West Diversion Channel and the Blanchard to Lye Cutoff levee are presented below.

West Diversion Channel Study Area (Literature Review)

The architectural literature review for the West Diversion Channel Study Area located two individual NRHP properties, one NRHP district and two properties formally determined to be eligible (DOE) for the NRHP within the two mile (3.2 km) buffer around the corridor. The individual properties were the Dr. Albert Linaweaver House (ID# 3001988), a 1904 Colonial Revival residence nominated under Criteria B and C for its architectural significance and historical associations, and the Andrew Powell Homestead (ID# 86003449), an 1872 Italianate style nominated under Criteria A, B and C for its history of the community. The Findlay Downtown Historic District (ID# 85000402), containing 263 structures, was nominated under Criterion C. While one DOE property is an historic water tower, no information about the second DOE property is available. None are located within the area of the recommended plan.

In addition to the NRHP eligible or listed properties, there are 63 architectural sites within the West Diversion Channel Study Area listed in the Ohio Historic Inventory (OHI). Most of these are located within the boundaries of the Findlay Downtown Historic District. These are comprised of residential buildings (majority), social-related buildings (well represented), and a nursing home. As a result of the 2010 Phase I investigation in other areas of the Blanchard River Watershed, five additional architectural sites were identified: three single-dwelling structures, a bridge, and a cemetery. None of these architectural sites are located within the area of the recommended plan.

There are eleven other historic cemeteries listed within the West Diversion Channel Study Area. Two of these appear to be a duplicate entry in the Ohio Genealogical Society's (OGS) records, one is reported gone or lost and the rest have fixed locations. Of the eleven, there is one that is immediately adjacent to, or located within, the current study alternative and two that are adjacent to the southern portion of the recommended plan.

The Ohio Historic Bridge Inventory was also checked. There were no historic bridges listed within the West Diversion Channel Study Area.

There was also a CRM report on file at the Ohio SHPO that covered a portion of the West Diversion Channel Study Area. It was a Phase I History/Architecture Survey conducted for the replacement of a bridge in the City of Findlay. This survey does not intersect the recommended plan.

Blanchard to Lye Cutoff Study Area (Literature Review)

The architectural literature review for the Blanchard to Lye Cutoff levee Study Area identified one individual NRHP property within the three mile (4.8 km) buffer around the corridor. This is the Marion Township School District No. 3, nominated under Criterion C for its architectural and engineering significance. It is not within the area of the current study alternative. No NRHP districts or properties determined eligible for the NRHP were listed within the area of the recommended plan.

In addition to the NRHP listed property, there are four architectural sites within the Blanchard to Lye Cutoff Study Area listed in the OHI. These are comprised of two single-dwelling residences, a one-room schoolhouse, and a barn. None of these are located within the area of the current study alternative.

There are seven historic cemeteries listed within the Blanchard to Lye Cutoff levee Study Area. One of these, according to OGS records, was moved in the 1930s to make room for a bridge and the rest have fixed locations. No cemeteries are located within the area of the Blanchard to Lye Cutoff levee Study Area.

The Ohio Historic Bridge Inventory was also checked. There are three bridges within the Blanchard to Lye Cutoff Study Area listed as NRHP eligible. The bridges are a ca. 1880 Pratt pony truss bridge, an 1895 pin-connected Pratt thru truss bridge and a 1931 continuous-design steel girder-floorbeam bridge. None of these bridges are located within the area of the recommended plan.

5.5 Preliminary Draft Programmatic Agreement

PROGRAMMATIC AGREEMENT
AMONG THE U.S. ARMY CORPS OF ENGINEERS-BUFFALO DISTRICT,
OHIO STATE HISTORIC PRESERVATION OFFICER, WYANDOTTE NATION,
HANCOCK COUNTY AND CITY OF FINDLAY
REGARDING THE FLOOD RISK MANAGEMENT PROJECT IN FINDLAY, OHIO
INITIAL ROUGH DRAFT-2014

WHEREAS, the U.S. Army Corps of Engineers-Buffalo District (Corps) is conducting a feasibility study of flood risk management measures for the City of Findlay, Hancock County and

WHEREAS, the Corps is considering the following flood risk management measures for Findlay _____.

WHEREAS, all required cultural resources investigations, identification, evaluation, determination of effects, and consultation for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, cannot be completed by the Corps or its agent prior to starting the design stage of the Findlay Flood Risk Management Project (Project); and

WHEREAS, the Corps has established the Project's Area of Potential Effects (APE), as required by 36 CFR § 800.4(a)(1) and defined in section 800.1 6(d), as consisting of _____ (includes associated construction work areas, construction staging areas, borrow areas, and disposal areas, as well as associated _____); and

WHEREAS, the Corps has determined that the Project may have effects on historic properties within the APE and has consulted with the Advisory Council on Historic Preservation (Advisory Council) pursuant to section 800.2(b) of the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), and the Advisory Council has declined to participate in the Programmatic Agreement for this Project; and

WHEREAS, Hancock County, as the non-Federal sponsor for the Project (Sponsor) and the City of Findlay, Ohio have participated in consultation on the Project's flood risk management measures and have been invited to concur in this Programmatic Agreement as consulting parties; and

WHEREAS, _____ are also interested parties and have been invited to participate in consultation on the Project's flood risk management measures and to concur in this Programmatic Agreement as consulting parties; and

WHEREAS, the Corps initially contacted the Absentee-Shawnee Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, Little River Band of Ottawa Indians, Little Traverse Bay Band of Odawa Indians, Miami Tribe of Oklahoma, Ottawa Tribe of Oklahoma, Shawnee Tribe, and Wyandotte Nation by letter dated December 3, 2012, to determine these tribes' interest in the Project, particularly regarding potential Project effects on properties important to their history, culture, or religion, including traditional cultural properties, and the Corps will consult with any of these tribes interested in this Project;

WHEREAS, on December 11, 2012, the Wyandotte Nation has requested to be a consulting party on this Project; and

WHEREAS, opinions and comments on the Project and its alternative measures and alignments have been and will be solicited through the study's scoping process, public meetings, and official review periods on the Environmental Impact Statement, in compliance with the National Environmental Policy Act (NEPA).

NOW THEREFORE, the Corps, Ohio State Historic Preservation Officer (SHPO) and consulting parties agree that upon filing this Programmatic Agreement (PA) with the Advisory Council on Historic Preservation, the Corps will implement the following stipulations in order to comply with Section 106 of the National Historic Preservation Act, as amended, with respect to the Project.

STIPULATIONS

The Corps will ensure that the following measures are carried out prior to the start of construction on Project flood risk management features at the Findlay:

A. Professional Qualifications. The Corps will ensure that archeologists, historians, and architectural historians meeting the professional qualification standards given in the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* will conduct or directly supervise all cultural resources identification, evaluation, and mitigation related to this Project, to include archaeological surveys and testing, historic structure inventories and evaluation, and data recovery and documentation and mitigation.

B. Literature and Records Search. Prior to conducting any cultural resources fieldwork, the Corps or its contractors shall at a minimum consult available site files, previous survey reports, and other documents at the Ohio Historic Society and at the SHPO for information on previously recorded cultural resources sites, site leads, and previously surveyed areas in the Project's APE.

C. Phase 1 Cultural Resources Investigation. The Corps or its contractors will conduct a Phase I survey or all portions of the Project's APE that had not previously been investigated in order to locate any cultural resources (prehistoric, historic, and architectural). The cultural resources

investigation will be an intensive, on-the-ground study of the area sufficient to determine the number and extent of the resources present and their relationships to Project features. The survey also will consider and address visual effect impacts of the proposed project to cultural resources within the APE.

D. Phase II Testing and Evaluation. The Corps or its contractors will evaluate the National Register of Historic Places eligibility of all cultural resources sites or structures over 50 years old located within the APE. Evaluation shall include such testing necessary to determine the information potential of prehistoric and historic archeological sites and archival research for historic archeological and architectural sites. The Corps will request the concurrence of the SHPO in determining each such site or structure's eligibility or non-eligibility to the National Register.

E. Phase III Mitigation. The Corps will avoid or minimize Project-related adverse effects to historic properties (National Register of Historic Places listed or eligible sites, structures, buildings, districts, or objects) to the extent practicable. Where adverse effects due to the Project are not avoidable, the Corps will formulate, coordinate, and execute a Memorandum of Agreement (MOA) with the SHPO and the other consulting parties as applicable, to mitigate the adverse effects.

F. Burials. If any human burials are encountered during the cultural resources field work or Project construction, the Corps and its contractors will comply with the Native American Graves Protection and Repatriation Act (NAGPRA) for federal or tribal lands, or _____, whichever is applicable.

G. Curation. The Corps or its contractors shall ensure that all materials and records resulting from the survey, evaluation, and data recovery or mitigation conducted for the Project, or recovered during Project construction, will be curated in accordance with 36 CFR Part 79, "Curation of Federally-Owned and Administered Archeological Collections" at a facility within the state of Ohio, unless the private landowner wishes to retain ownership of artifacts recovered from his/her land.

H. Discoveries During Project Implementation. Should an unidentified site or property that may be eligible for inclusion in the National Register be discovered during Project construction, the Corps will cease all work in the vicinity of the discovered property until it can be evaluated pursuant to guidelines in Stipulation D of this Programmatic Agreement. If the property is determined to be eligible, the Corps shall comply with the provisions of Stipulation E above. Project actions which are not in the area of the discovery may proceed while the consultation and any necessary evaluation and mitigation work is conducted.

I. Reports. The Corps shall ensure that draft and final reports resulting from actions pursuant to the Stipulations of this Programmatic Agreement will be provided to the SHPO and, upon request, to

other parties to this agreement. All parties will have 30 days to review and comment on any draft reports furnished to them.

ADMINISTRATIVE PROCEDURES

J. Dispute Resolution. In the event the SHPO, or a concurring party to the PA object to any plans, documents, or reports prepared under the terms of this PA within 30 days after receipt, the Corps shall consult with the party to resolve the objection. If the Corps determines that the objection cannot be resolved, the Corps shall forward all documentation relevant to the dispute to the Advisory Council. Any recommendation or comment provided by the Advisory Council will be understood to pertain only to the subject of the dispute. The Corps' responsibility to carry out all stipulations under this PA that are not the subject of the dispute will remain unchanged.

DISPUTE RESOLUTION

Should any signatory or concurring party to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, the USACE shall consult with such party to resolve the objection. If the USACE determines that such objection cannot be resolved, the USACE will:

1. Forward all documentation relevant to the dispute, including the USACE's proposed resolution, to the ACHP. The ACHP shall provide the USACE with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the USACE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The USACE will then proceed according to its final decision.
2. If the ACHP does not provide its advice regarding the dispute within thirty (30)-day time period, the USACE may make a final decision on the dispute and proceed accordingly. Prior to reaching such final decision, the USACE shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the PA, and provide them and the ACHP with a copy of such written response.
3. The USACE's responsibility to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

K. Amendments. Any signatory to this PA may request that it be amended, whereupon the parties will consult to consider such amendment. The PA may only be amended with the written concurrence of all parties who have signed the PA.

L. Anti-Deficiency Provision All obligations on the part of the Corps under this PA shall be subject to the appropriation, availability and allocation of sufficient funds to the Buffalo District for such purposes.

M. Termination.

1. Proof of compliance with all stipulations to the satisfaction of the Corps and the SHPO will constitute completion of this Programmatic Agreement.

2. If the terms of this PA have not been implemented within _____ years after its execution, this agreement will be null and void. In such an event, the Corps shall notify the SHPO and the concurring parties of its expiration, and if appropriate, shall re-initiate review of the undertaking in accordance with 36 CFR Part 800.

3. Any signatory party to this PA may withdraw from it by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to withdrawal to seek agreement on amendments or other actions that would avoid withdrawal. In the event of termination, or withdrawal, the Corps will comply with federal regulation 36 CFR Part 800, Protection or Historic Properties.

N. Points of Contact. The points of contact for the signatories and concurring parties are as follows:

- 1.
- 2.

Execution of this Programmatic Agreement, its subsequent filing with the Advisory Council, and implementation of its Stipulations evidences that the Corps has taken into account the effects of the Project on National Register listed or eligible historic properties, and has satisfied its Section 106 responsibilities for all aspects of this undertaking.

U.S. ARMY CORPS OF ENGINEERS-BUFFALO DISTRICT

By: Date:

OHIO STATE HISTORIC PRESERVATION OFFICER

By; Date:

Concur:

HANCOCK COUNTY Date:

By:

CITY OF FINDLAY

By: Date:

WYANDOTTE NATION Date:

By:

Others....

4.0 Farm Protection Policy Act

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 10 SEP 2013				
Name of Project Blanchard River Flood Risk Mgmt Study		Federal Agency Involved US Army Corps of Engineers				
Proposed Land Use Flood Mitigation Channel/Reservoirs		County and State Hancock, OH				
PART II (To be completed by NRCS)		Date Request Received By NRCS 9/12/13		Person Completing Form: Steve Baker SSS		
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Acres Irrigated 0	Average Farm Size 268	
Major Crop(s) Corn-Beans-Wheat	Farmable Land In Govt. Jurisdiction Acres: 98 % 330165	Amount of Farmland As Defined in FPPA Acres: 97 % 326648				
Name of Land Evaluation System Used -	Name of State or Local Site Assessment System -	Date Land Evaluation Returned by NRCS 10/23/13				
PART III (To be completed by Federal Agency)		Alternative Site Rating				
		Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly		8.26	17.7	280.35	11.38	
B. Total Acres To Be Converted Indirectly		52.82	154.49	0	102.1	
C. Total Acres In Site		61.08	172.19	280.35	113.48	
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland		56.63	172.19	280.35	107.68	
B. Total Acres Statewide Important or Local Important Farmland		-	-	-	-	
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		.002	Total			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		82	40	80	45	
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		76	83	77	78	
PART VI (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	15	14	12	15	
2. Perimeter In Non-urban Use	(10)	10	6	8	10	
3. Percent Of Site Being Farmed	(20)	20	0	15	20	
4. Protection Provided By State and Local Government	(20)	0	0	0	0	
5. Distance From Urban Built-up Area	(15)	15	15	10	10	
6. Distance To Urban Support Services	(15)	10	10	0	0	
7. Size Of Present Farm Unit Compared To Average	(10)	2	2	5	5	
8. Creation Of Non-farmable Farmland	(10)	3	0	3	5	
9. Availability Of Farm Support Services	(5)	3	3	3	3	
10. On-Farm Investments	(20)	10	1	2	2	
11. Effects Of Conversion On Farm Support Services	(10)	0	0	5	0	
12. Compatibility With Existing Agricultural Use	(10)	5	5	10	5	
TOTAL SITE ASSESSMENT POINTS	160	93	56	73	75	
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	76	83	77	78
Total Site Assessment (From Part VI above or local site assessment)		160	93	56	73	75
TOTAL POINTS (Total of above 2 lines)		260	169	139	150	153
Site Selected: A,B,C, and D		Date Of Selection 10/29/2013		Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
Reason For Selection: Through an internal review and multiple public forums these sites have been chosen out of a number of different alternatives using a CBA and other decision making criteria.						
Name of Federal agency representative completing this form: Michael Voorhees, Biologist					Date: 10/28/2013	

(See Instructions on reverse side)

Form AD-1006 (03-02)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPL.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

5.0 Hazardous Substances/Petroleum Products

5.1.0 Introduction

Phase I Environmental Site Assessments (ESAs) were conducted in 2013 to determine if hazardous substances or petroleum products are present, or likely present, on properties in the project area under conditions that indicate an existing release, a past release, or a material threat of a release to the ground, groundwater, or surface water. The ESAs were performed in accordance with the following American Society for Testing and Materials (ASTM) standard practices:

- E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*
- E 2247-08 *Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property*

5.2.0 Documents

American Structurepoint 2014a. *Phase I Environmental Site Assessment Blanchard Lye Levee Properties within the Flood Risk Mitigation Corridor Findlay, Hancock County, Ohio*. Draft 21 March 2014.

American Structurepoint 2014c. *Phase I Environmental Site Assessment West Diversion Alignment Properties within the Flood Risk Mitigation Corridor Findlay, Hancock County, Ohio*. Draft 21 March 2014.

5.2.1 Summary

Phase I ESAs were performed by American Structurepoint for the Board of Hancock County Commissioners to evaluate the potential for contamination associated with hazardous substances or petroleum products on properties in the following project areas:

- Blanchard-Lye Levee
- West Diversion Alignment

The reports identify oil and/or gas production wells and pipelines as RECs. The DPR/DEIS does not consider these features as RECs because evidence of an existing release, past release, or material threat of a release to the ground, groundwater, or surface water is not provided in the documentation. Most of the properties identified with these structures are active farms predominately consisting of agricultural fields.

Blanchard to Lye Levee Properties

The investigated area encompassed a corridor along the Blanchard River from State Route 15 northward to Township Road 207. Twenty parcels were evaluated from 23 to 28 October 2013; RECs were not identified. Figure 5.1 illustrates the investigated area. Table 5.1 summarizes findings of the ESA.

Table 5.1 – Phase I ESA Summary (2013), Blanchard-Lye Levee Properties

Map Key No.	Parcel Number	Address	Description of REC	Notes
LL-1	250001010943	State Route 15, Apt R	None	
LL-2	250000048090	16592 County Road 172	None	
LL-3	250000048150	12345 Township Road 240	None	
LL-4	250001001597	County Road 173	None	
LL-5	250000048130	16699 Township Road 173	None	
LL-6	250000048070	16751 Township Road 173	None	
LL-7	330000080560	Township Road 173	None	
LL-8	330000080740	16756 Township Road 173	None	
LL-9	330000084090	11823 Township Road 240	None	
LL-10	330000080730	Township Road 173	None	
LL-11	330000080710	11622 Township Road 244	None	
LL-12	330001000660	11478 Township Road 244	None	
LL-13	330001027962	16617 Township Road 205	None	
LL-14	330000080650	Township Road 244	None	
LL-15	330001014904	11274 Township Road 244	None	
LL-16	330001014902	16777 Township Road 205	None	
LL-17	330001014898	16966 Township Road 205	None	
LL-18	330001016943	Township Road 205	None	
LL-19	330001022266	16811 Township Road 207	None	Unknown oil/gas well onsite
LL-20	330000079380	Township Road 244	None	

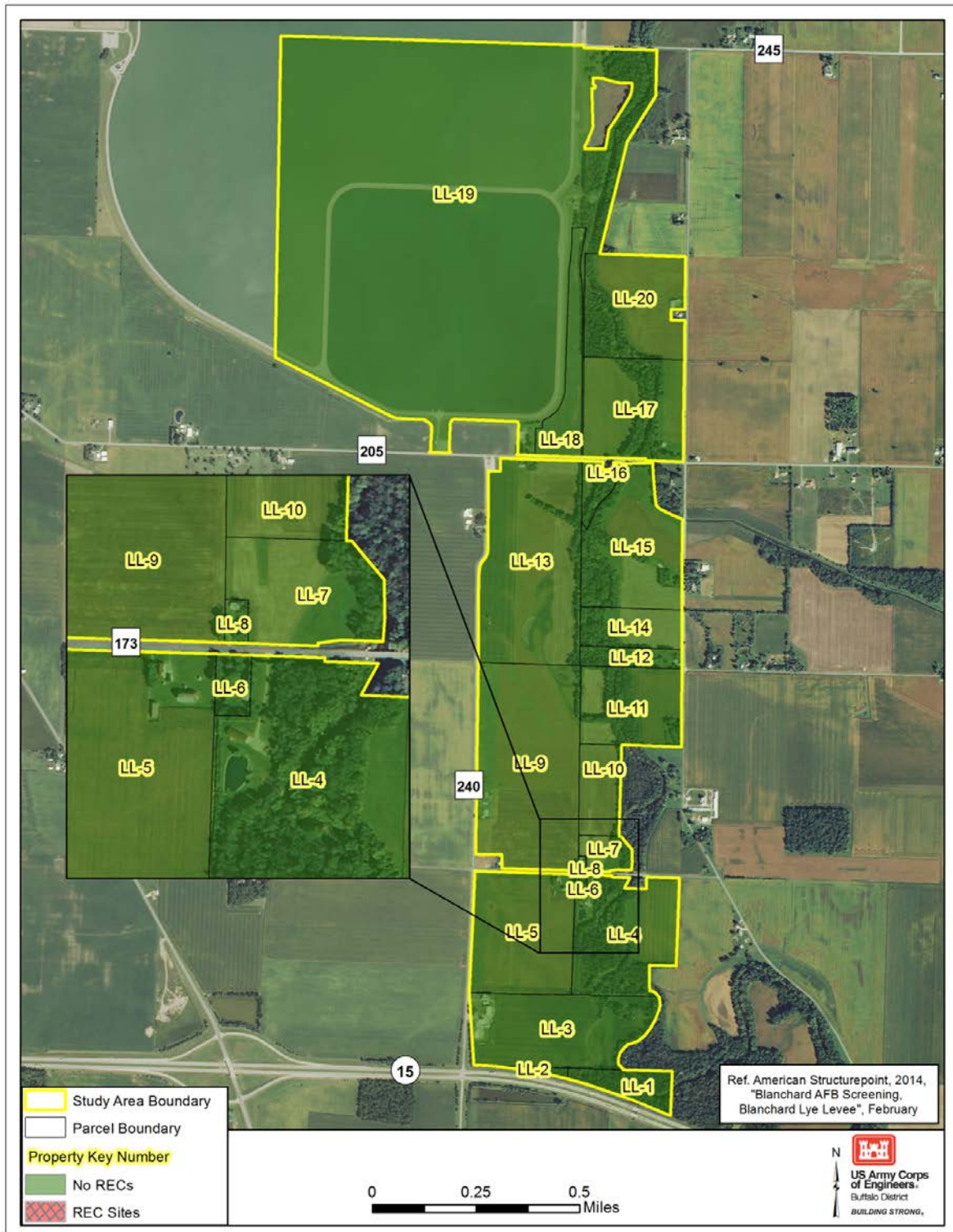


Figure 5.1. Phase I ESA (2013), Blanchard-Lye Levee Properties

The investigated area encompassed an approximate 9 mile corridor from US Route 68 south of Findlay to the Blanchard River. A total of 116 parcels were evaluated from 23 to 29 October, 2013. Identified RECs included an abandoned tank farm, an area containing approximately 10 to 15 discarded drums, and an excavated tank with piping. Figures 5.2 to 5.5 illustrate the investigated area. Table 5.2 summarizes findings of the ESA.

Table 5.2 – Phase I ESA Summary (2013), West Diversion Alignment Properties

Map Key No.	Parcel Number	Address	Description of REC	Notes
WD-1	180001014287	13754 US Route 68	None	
WD-2	200001028381	US Route 68	None	
WD-3	200000045321	13456 US Route 68	None	
WD-4	200000045340	Township Road 76	None	
WD-5	200001028380	13338 US Route 68	None	
WD-6	200001028566	12906 US Route 68	None	
WD-7	200000044840	Township Road 77	None	Abandoned oil/gas well onsite
WD-8	200000044770	Township Road 49	None	
WD-9	200001015067	Township Road 76	None	
WD-10	200001017115	Township Road 67	None	
WD-11	200001004583	Township Road 67	None	Abandoned oil/gas well onsite
WD-12	200001015068	12800 Township Road 76	None	
WD-13	200001008917	Township Road 77	None	
WD-14	200001006822	Township Road 77	None	
WD-15	200000045021	12686 Township Road 76	None	
WD-16	200000045090	12634 Township Road 67	None	
WD-17	200000044990	Township Road 76	None	Abandoned oil/gas well onsite
WD-18	200001017114	Township Road 67	None	Abandoned oil/gas well onsite
WD-19	200000004490	12502 Township Road 67	None	

Table 5.2 – Phase I ESA Summary (2013), West Diversion Alignment Properties

Map Key No.	Parcel Number	Address	Description of REC	Notes
WD-20	190001016675	County Road 9	None	
WD-21	200001003703	12500 Township Road 67	None	Oil/gas well onsite
WD-22	190001000104	County Road 9	None	
WD-23	200001006824	12520 Township Road 76	None	Oil/gas well onsite
WD-24	200001004173	12465 Township Road 76	None	
WD-25	200000044800	12320 Township Road 77	None	
WD-26	200000044800	12320 Township Road 77	None	
WD-27	200000044890	Township Road 76	None	
WD-28	200001020108	Township Road 76	None	
WD-29	200001012130	12309 Township Road 67	None	Active oil/gas well onsite
WD-30	200001012131	12481 Township Road 67	None	
WD-31	200001012440	Township Road 50	None	Active oil/gas well onsite
WD-32	190001011142	9845 Township Road 50	None	Gas exploration well onsite
WD-33	200001012441	10123 Township Road 50	None	
WD-34	190001011143	9983 Township Road 50	None	
WD-35	200001019158	12148 Township Road 67	None	
WD-36	200001020361	10130 Township Road 50	None	
WD-37	200001020360	Township Road 67	None	
WD-38	190001009195	Township Road 50	None	
WD-39	200000045050	12010 Township Road 67	None	
WD-40	280000061680	Township Road 67	None	
WD-41	280001018192	Township Road 67	None	
WD-42	280001018191	County Road 9	None	Active oil/gas well onsite
WD-43	280001001595	County Road 9	None	
WD-44	280001019300	County Road 313	Near abandoned tank	

Table 5.2 – Phase I ESA Summary (2013), West Diversion Alignment Properties

Map Key No.	Parcel Number	Address	Description of REC	Notes
			farm	
WD-45	280001019299	County Road 313	Near abandoned tank farm	Active oil/gas wells onsite
WD-46	280001018941	8266 Township Road 79	None	Active oil/gas wells onsite & adjacent
WD-47	280001012262	County Road 9	None	
WD-48	280001013385	County Road 313	None	
WD-49	280000061340	11758 County Road 9	None	
WD-50	280000061360	9161 County Road 313	None	
WD-51	280000061440	11790 County Road 9	None	
WD-52	280000061650	Township Road 67	None	
WD-53	280001012261	11729 County Road 9	None	Unknown oil/gas wells onsite
WD-54	280001005880	County Road 313 Apt R	Petroleum spill; near abandoned tank farm	Active oil well onsite
WD-55	280001019301	County Road 313	Near abandoned tank farm	Active oil well onsite
WD-56	280000061240	Township Road 10	Near abandoned tank farm	Active oil well onsite
WD-57	280000061130	11559 Township Road 130	None	Active & abandoned oil wells onsite
WD-58	280001013399	7409 County Road 84	None	Pipeline & active/unknown oil wells onsite
WD-59	280000061510	9275 County Road 313	Petroleum spill; near abandoned tank farm	
WD-60	280000061310	9291 County Road 313	Petroleum spill; near abandoned tank farm	Active oil well onsite
WD-61	280000061750	Township Road 67	None	
WD-62	280001007657	9587 County Road 313	None	

Table 5.2 – Phase I ESA Summary (2013), West Diversion Alignment Properties

Map Key No.	Parcel Number	Address	Description of REC	Notes
WD-63	280000061350	11415 County Road 9	None	
WD-64	280001013386	County Road 313	None	
WD-65	280001003258	9350 County Road 313	Near abandoned tank farm	
WD-66	280000061470	County Road 84	Abandoned tank farm onsite	Abandoned oil wells onsite
WD-67	280000061230	County Road 313 Apt R	Abandoned tank farm; drum disposal area	
WD-68	280001020924	8935 County Road 84	Adjacent to abandoned tank farm; drum disposal area	Silos onsite
WD-69	280001026023	County Road 84	Adjacent to abandoned tank farm	Active oil well onsite
WD-70	280000061160	8097 County Road 84	Near abandoned tank farm	Pipeline & active oil/gas wells onsite
WD-71	280001017575	County Road 84	None	Pipeline & active/unknown oil wells onsite
WD-72	280000061070	Township Road 130	None	Pipeline & active oil wells onsite
WD-73	280000061080	11313 Township Road 130	None	
WD-74	280001017576	7755 County Road 84	None	Active oil wells onsite
WD-75	280001029372	Township Road 10	None	Active oil wells onsite
WD-76	280000060490	10851 Township Road 130	None	Active & unknown oil wells onsite
WD-77	280001019677	Township Road 130	None	Active & unknown oil wells onsite
WD-78	280001029371	Township Road 10	None	Active oil wells onsite
WD-79	280001019678	10590 Township Road 130	None	
WD-80	280001026373	10054 Township Road 10	None	Active & unknown oil wells onsite

Table 5.2 – Phase I ESA Summary (2013), West Diversion Alignment Properties

Map Key No.	Parcel Number	Address	Description of REC	Notes
WD-81	280000060480	Township Road 130	None	Active oil wells onsite
WD-82	280001005941	State Route 12	None	Active oil wells onsite
WD-83	280000060470	State Route 12	None	Active oil wells onsite
WD-84	280001005942	7300 State Route 12	None	
WD-85	280000059060	7612 State Route 12	None	
WD-86	280001003724	7406 State Route 12	None	Abandoned oil well onsite
WD-87	280001003724	7406 State Route 12	None	Abandoned oil well onsite
WD-88	280001003723	State Route 12	None	Active oil wells onsite
WD-89	280000059060	7612 State Route 12	None	Active & unknown oil wells onsite
WD-90	280001007164	9744 Township Road 130	None	Active oil well onsite
WD-91	280001025953	Township Road 130	None	Unknown oil well onsite
WD-92	280001025952	9568 Township Road 130	None	
WD-93	280001005944	7299 County Road 86	None	
WD-94	280001025953	Township Road 130	None	Active oil well onsite
WD-95	280000059120	County Road 86	None	Active & unknown oil wells onsite
WD-96	280001004948	Township Road 130	None	Active & unknown oil wells onsite
WD-97	280001004946	Township Road 130	None	Pipeline & active oil wells onsite
WD-98	280001004947	9298 Township Road	None	
WD-99	280000059030	Township Road 130	None	Active & abandoned oil wells onsite
WD-100	280000058710	Township Road 130	None	Active & abandoned oil wells onsite
WD-101	280001027932	8914 Township Road	None	Abandoned oil well onsite

Table 5.2 – Phase I ESA Summary (2013), West Diversion Alignment Properties

Map Key No.	Parcel Number	Address	Description of REC	Notes
WD-102	280001027933	Township Road 130	None	Pipelines & active/ abandoned oil wells onsite
WD-103	280001013387	Township Road 130	None	Active & abandoned oil wells onsite
WD-104	280001013387	Township Road 130	None	Pipelines & active/ abandoned oil wells onsite
WD-105	280000058630	Township Road 89	None	Pipelines & active/ abandoned/unknown oil wells onsite
WD-106	280001013380	8635 Township Road 130	None	
WD-107	280001028417	Township Road 89	None	Pipeline & active oil well onsite
WD-108	280000058600	7512 Township Road 89	None	Pipelines & active/ abandoned oil wells onsite
WD-109	280001001847	Township Road 89	None	Pipeline & active/ abandoned/unknown oil wells onsite
WD-110	280000058600	7512 Township Road 89	None	Pipeline & active/ unknown oil wells onsite
WD-111	280001001847	Township Road 89	Excavated tank & piping on ground surface	Active oil/gas wells onsite
WD-112	280001001848	7398 Township Road 89	None	
WD-113	280001006169	Township Road 128	None	Active oil wells onsite
WD-114	280000057030	Township Road 89	None	Active & abandoned oil wells onsite
WD-115	280001029093	7700 US Route 224	None	Active & abandoned oil wells onsite
WD-116	280000057120	County Road 128	None	Abandoned & unknown oil/gas wells onsite

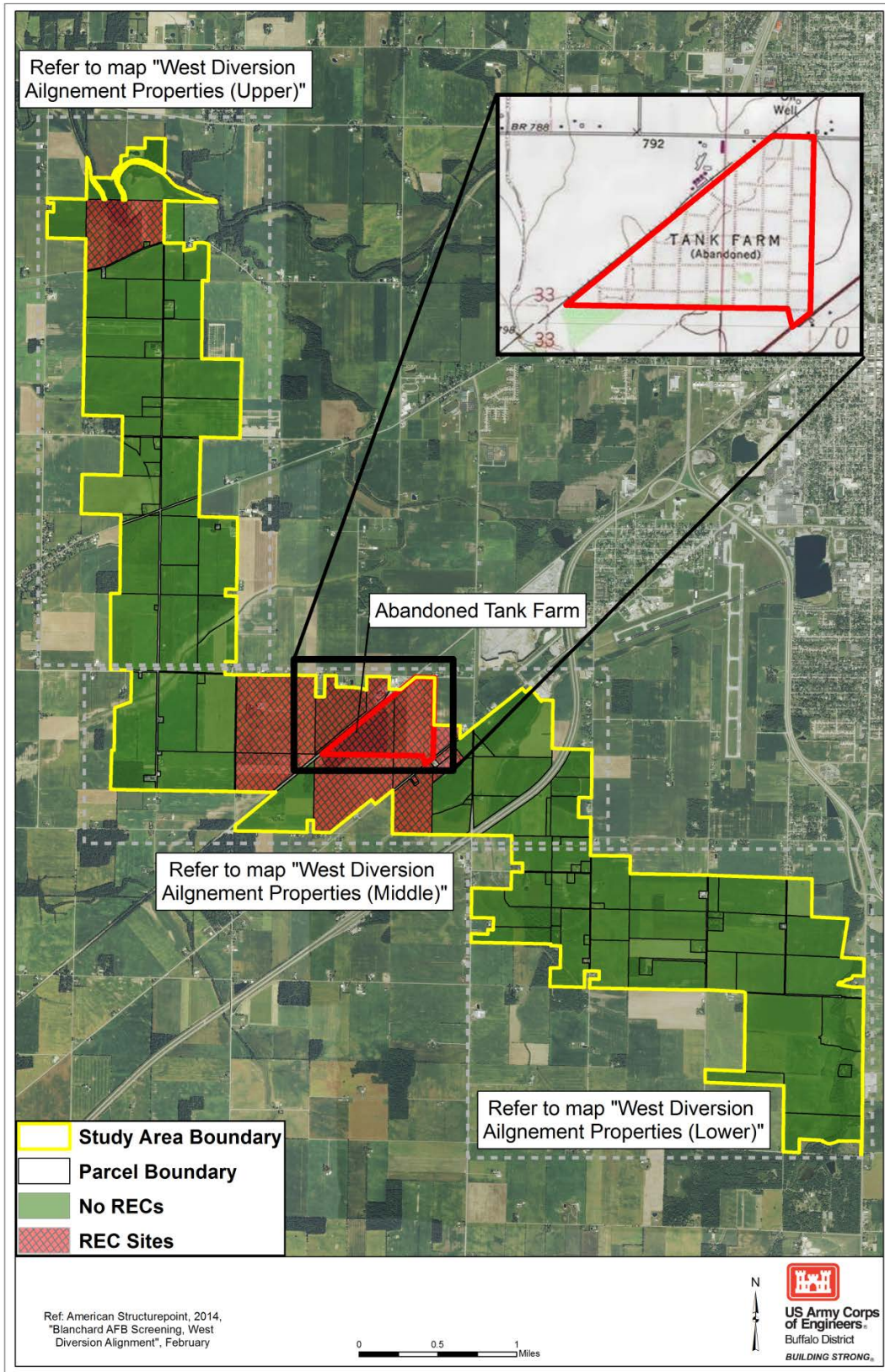


Figure 5.2. Phase I ESA (2013), West Division Alignment Properties

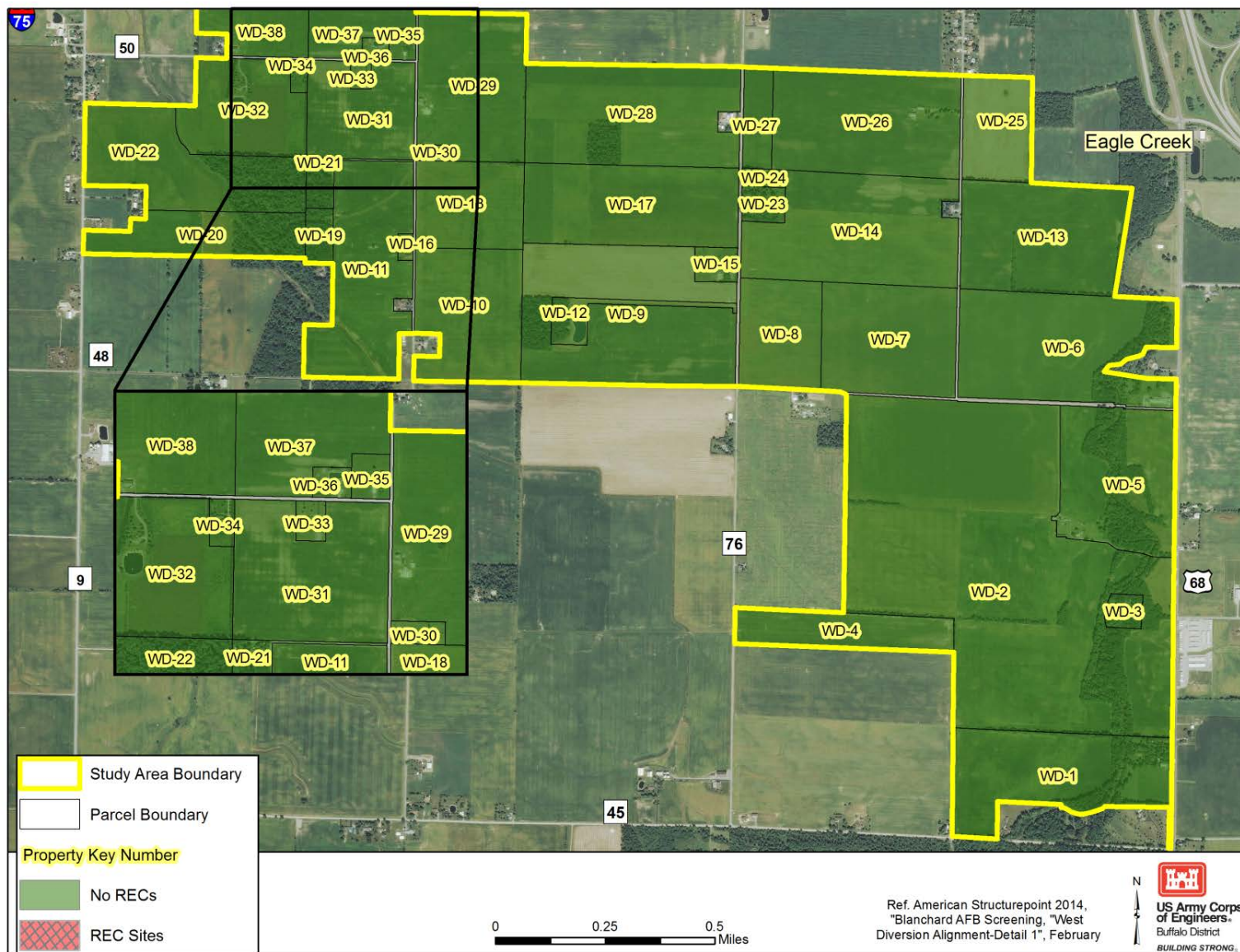


Figure 5.3; Phase I ESA (2013), West Diversion Alignment Properties (Lower Section)

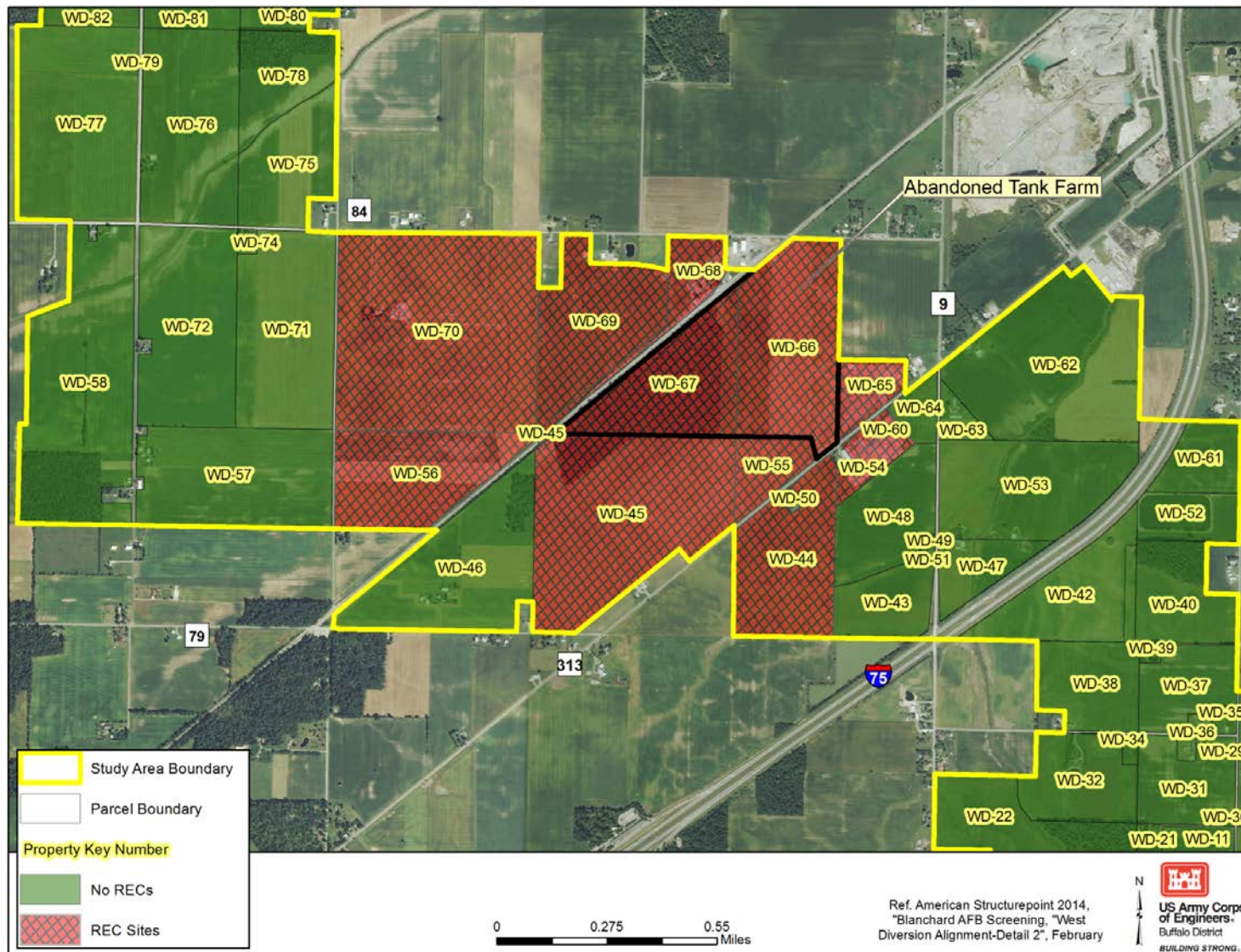


Figure 5.4. Phase I ESA (2013), West Diversion Alignment Properties (Middle Section)

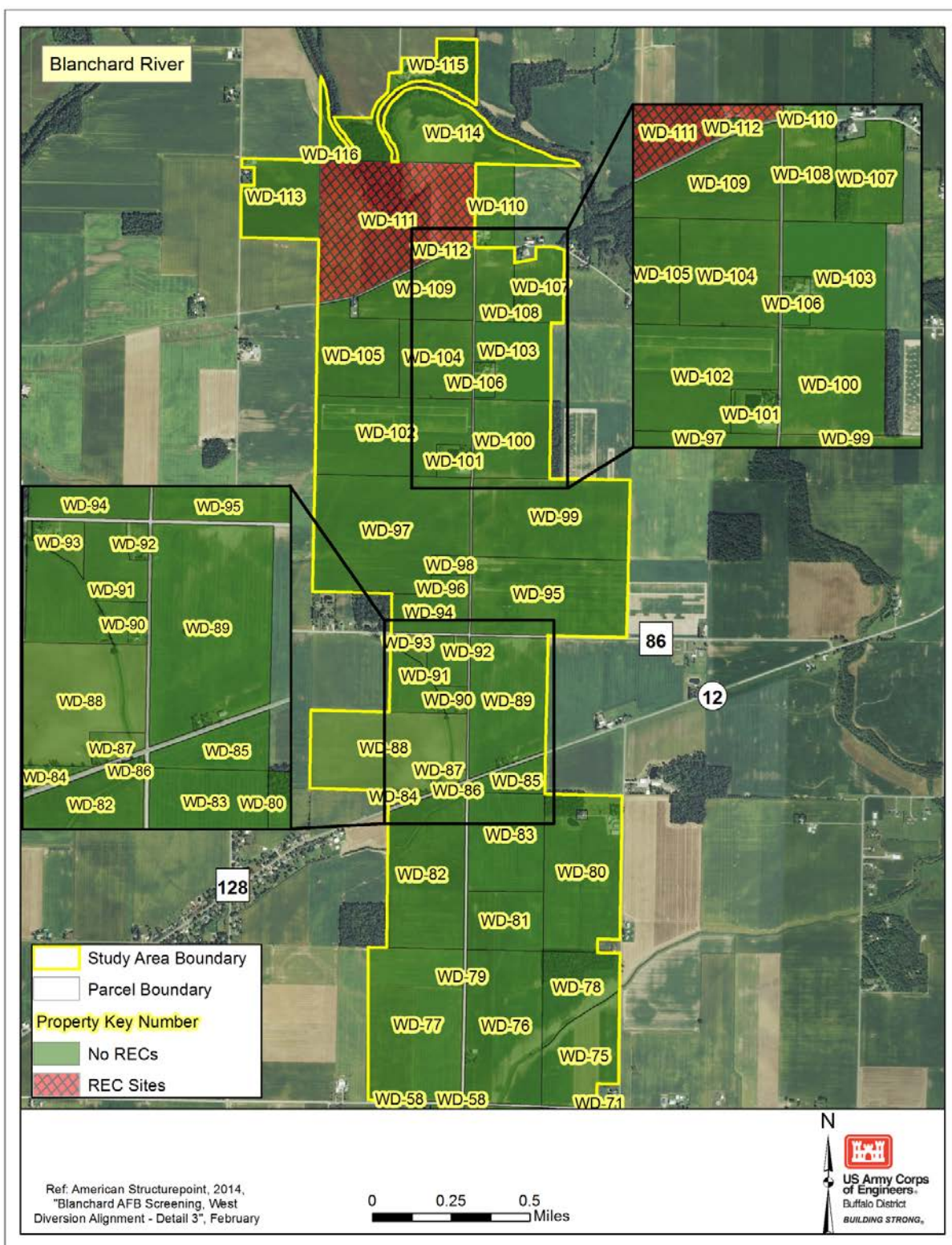


Figure 5.5. Phase I ESA (2013), West Diversion Alignment Properties (Upper Section)

6.0 Notice of Intent

an Air Force research site. Research Associates generally spend 1 to 3 years at an Air Force research site. SFFP and NRC/RRA provide postdoctoral and senior scientists and engineers of unusual promise and ability, opportunities for conducting research on problems that are defense requirements. Application information will be used for evaluation and selection of scientists and engineers to be awarded fellowships and associateships. Failure to respond renders the applicant ineligible for a fellowship.

Affected Public: Individuals or households.

Annual Burden Hours: 5,760 hours.

Number of Respondents: 360.

Responses per Respondent: 1.

Average Burden per Response: 16 hours.

Frequency: Annually (SFFP) and quarterly (NRC/RRA).

SUPPLEMENTARY INFORMATION:

Summary of Information Collection

Respondents are postdoctoral, senior, and university scientists and engineers desiring to conduct stimulating research projects and activities at Air Force research sites. The on-line, electronic application process provides information necessary for evaluation and selection of researchers. Associated award forms provide required information for direct deposit of stipends and reporting to the IRS.

Dated: November 26, 2012.

Aaron Siegel,

Alternate OSD Federal Register, Liaison Officer, Department of Defense.

[FR Doc. 2012-28924 Filed 11-29-12; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Department of the Army

Notice of Intent to License Government-Owned Inventions; Intent to License on a Partially-Exclusive Basis

AGENCY: Department of the Army, DoD.

ACTION: Notice.

SUMMARY: The inventions listed below are assigned to the United States Government as represented by the Secretary of the Army. The US Army Edgewood Chemical Biological Center intends to license these inventions on a partially-exclusive basis to Lighthouse Worldwide Solutions, Inc, a California Corporation with principal offices at, 47300 Landing Parkway, Fremont, CA 94538. The inventions to be licensed collectively enable a Tactical Biological

Detector (TAC-BIO), and are disclosed in U.S. Patent 6,967,338 Application Serial No10/720877 filed 11/24/2003, issued 11/22/2005 and entitled "Micro UV particle detector," U.S. Patent 7,375,348 Application Serial No 11/268758 filed 11/03/2005, issued 05/20/2008 and entitled "Micro UV detector," U.S. Patent 7,567,391 Application Serial No 11/748817 filed 05/15/2007, issued 07/28/2009 and entitled "Radiation source with self-aligning optics," U.S. Patent 7,852,469 Application Serial No 11/867190 filed 10/04/2007, issued 12/14/2010 and entitled "Particle detector," DAM 689-08 Application Serial No.12/380,366 filed 02/26/2009 and entitled "Photon counting based particle detection method and apparatus."

ADDRESSES: Requests for more information and/or objections should be directed to Eric McGill, telephone: 410-436-8467, eric.s.mcgill.ctr@mail.mil, US Army Edgewood Chemical Biological Center (ECBC), AMSRD-ECB-PI-BP-TT, Bldg E3330/Rm 241 5183 Blackhawk Road, APG, MD 21010-5424. Any requests or objections should be made within 15 days of the publication of this notice.

FOR FURTHER INFORMATION CONTACT:

Dhirajlal Parekh, Office of Research and Technology Applications, US Army Edgewood Chemical Biological Center, AMSRD-ECB-PI-BP-TT, Bldg E3330/Rm 241 5183 Blackhawk Road, APG, MD 21010-5424, telephone: 410-436-8400, email: dhirajlal.parekh,civ@mail.mil.

SUPPLEMENTARY INFORMATION: None.

Brenda S. Bowen,

Army Federal Register Liaison Officer.

[FR Doc. 2012-28883 Filed 11-29-12; 8:45 am]

BILLING CODE 3710-08-P

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Intent To Prepare an Environmental Impact Statement for the Proposed Flood Risk Management Study for the Blanchard River Watershed Including Communities of Findlay and Ottawa, OH

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of Intent.

SUMMARY: Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR parts 1500-1508)

and Public Law 102-484 Section 2834, as amended by Public Law 104-106 Section 2867, the Department of the Army hereby gives notice of intent to prepare an Environmental Impact Statement (EIS) for the subject Flood Risk Management Study. The Buffalo District of the U.S. Army Corps of Engineers (USACE) will be the lead agency in preparing the EIS.

The EIS will consider Federal actions associated with the proposed Flood Risk Management Study in the Blanchard River Watershed including the communities of the City of Findlay in Hancock County and the Village of Ottawa in Putnam County, OH. More specifically, this document will discuss measures to improve flood risk management, navigation, water quality, recreation, and fish and wildlife habitat in a comprehensive manner in the Blanchard River Watershed, Ohio. The overall goal of the study is to reduce flood risk by saving lives and minimizing property damage in the event of floods in Findlay and Ottawa, Ohio. The plan will consider a range of structural and nonstructural measures that may be used for flood risk management in the Blanchard River Watershed.

ADDRESSES: U.S. Army Corps of Engineers, Buffalo District, CELRB-PM-PB, 1776 Niagara Street, Buffalo, NY 14207-3199.

FOR FURTHER INFORMATION CONTACT: The Project Team, telephone (419) 726-9121, email Blanchard@usace.army.mil.

SUPPLEMENTARY INFORMATION: The Blanchard River Watershed is located in northwestern Ohio, with its headwaters originating in central Hardin County. The 771-square mile Blanchard River Watershed drains into the Auglaize River in Putnam County, Ohio. The Blanchard River Watershed is characterized by alluvial flatlands prone to flooding, with significant flood damages occurring frequently at Findlay and Ottawa over the last ten years. The Blanchard River has reached or exceeded major flood stage 23 times since 1913. Nine of these flood events have occurred since 1990. For events between 1990 and 2011, five are among the top ten stages ever recorded; three have peaked at more than three feet over major flood stage; and one (an event occurring in August 2007) reached a peak that was only 0.04 feet less than the maximum peak stage ever recorded in 1913. Damages during the August 2007 event alone were estimated by the Northwest Ohio Flood Mitigation Partnership to be roughly \$60 million in the Findlay area and \$20 million in the Ottawa area. The Corps of Engineers

plans to address flooding issues in Findlay and Ottawa by evaluating a series of flood risk management measures within the vicinity of these two affected areas.

Proposed Action: In accordance with 40 CFR parts 1500–1508 and Engineer Regulation 200–2–2, an EIS is being prepared for the Federal Flood Risk Management Study within the Blanchard River watershed including the communities of Findlay and Ottawa to ensure full and fair consideration of significant environmental impacts. This EIS will inform decision-makers and the public of reasonable alternatives to reduce the risk of loss of life and property damage from flooding in these areas and that would also avoid or minimize adverse impacts and/or enhance the quality of the human environment. The proposed EIS will focus on the implementation of flood risk management measures associated with the Blanchard River in and within the vicinity of Findlay and Ottawa. The EIS will be consistent with sound engineering practices and will be drafted concurrently with actions to achieve compliance with other applicable Federal environmental compliance requirements, including those established by Section 404 of the Clean Water Act. In addition, the EIS will be consistent with State and local plans.

Reasonable Alternatives: It is Corps of Engineers planning policy to consider practicable and relevant alternative management measures, including a no action alternative. While the preferred alternative has not yet been established, the alternative plans considered in the EIS will consist of an array of structural and nonstructural measures for both Findlay and Ottawa. Structural measures may include, but are not limited to, channel realignment/diversion, levees and floodwall creation, culvert modification, and the creation of flood storage areas, including wetlands, bermed containment areas, and water detention areas/reservoirs. Nonstructural measures may include, but not be limited to, elevating existing buildings, relocation or acquisition of flood-prone structures, wet and dry floodproofing, as well as the development and implementation of a flood warning system or flood emergency preparedness plan.

Scoping Process: The Corps of Engineers invites affected Federal, State and local agencies, interested Indian Nations, and other concerned organizations and individuals to participate in development of the EIS. An initial Scoping Document was distributed in June 2008 and the Corps

of Engineers will be conducting a second round of scoping, and four public scoping meetings in December, 2012, which include: (1) 6:30 p.m. on December 10, 2012 at the Ottawa-Glandorf High School Auditorium, 630 Glendale Ave. Ottawa, OH; (2) 9:00 a.m. on December 11, 2012 at the Putnam County Educational Service Center, 124 Putnam Parkway, Ottawa, OH; (3) 7:00 a.m. on December 11, 2012 at the Findlay High School Auditorium, 1200 Broad Avenue, Findlay, OH; and, (4) 9:00 a.m. December 12, 2012 at the Hancock County Agricultural Service Center, 7868 County Road 140, Findlay, OH. All written comments received by the Corps of Engineers during the scoping period and throughout the EIS process will be considered in the preparation of the EIS.

The Draft EIS is tentatively scheduled to be available for public review in December 2013. The Final EIS is tentatively scheduled to be available for public review in September 2014.

Dated: November 20, 2012.

Owen J. Beaudoin,

Lieutenant Colonel, U.S. Army Corps of Engineers, District Commander.

[FR Doc. 2012–28887 Filed 11–29–12; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Notice of Correction to the Notice of Intent To Prepare a Joint Environmental Impact Statement (EIS) for the Gateway Pacific Terminals Bulk Dry Goods Shipping Facility and the Custer Spur Rail Expansion Projects

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of Correction.

SUMMARY: This notice corrects the location and date of one of the public scoping meetings listed in the Notice of Intent published in the *Federal Register* (77 FR 58531) on Friday, September 21, 2012. The venue for the Seattle public scoping meeting previously scheduled for November 13, 2012 is no longer available. The Seattle public scoping meeting will be held at the Washington State Convention Center, Rooms 6A, 6B, 6C, and 6D, 800 Convention Place, Seattle, WA 98101 on Monday, December 17, 2012, from 4:00 p.m. to 7:00 p.m.

FOR FURTHER INFORMATION CONTACT: Mr. Randel Perry via email at: randel.j.perry@usace.army.mil, by phone at (360) 734–3156, or by regular

mail at Mr. Randel Perry, U.S. Army Corps of Engineers, Seattle District, Care of: GPT/BNSF Custer Spur EIS Co-Lead Agencies, 1100 112th Avenue Northeast, Suite 400, Bellevue, WA 98004. Additional information on scoping meetings can be found at www.eisgatewayappacificwa.gov.

Brenda S. Bowen,

Army Federal Register Liaison Officer.

[FR Doc. 2012–28885 Filed 11–29–12; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF EDUCATION

[Docket No.: ED–2012–ICCD–0064]

Agency Information Collection Activities; Submission to the Office of Management and Budget for Review and Approval; Comment Request; Early Reading First: Grant Performance Report

AGENCY: Department of Education (ED), Office of Elementary and Secondary Education (OESE).

ACTION: Notice.

SUMMARY: In accordance with the Paperwork Reduction of 1995 (44 U.S.C. chapter 3501 *et seq.*), ED is proposing a revision of an existing information collection.

DATES: Interested persons are invited to submit comments on or before December 31, 2012.

ADDRESSES: Comments submitted in response to this notice should be submitted electronically through the Federal eRulemaking Portal at <http://www.regulations.gov> by selecting Docket ID number ED–2012–ICCD–0064 or via postal mail, commercial delivery, or hand delivery. *Please note that comments submitted by fax or email and those submitted after the comment period will not be accepted.* Written requests for information or comments submitted by postal mail or delivery should be addressed to the Director of the Information Collection Clearance Division, U.S. Department of Education, 400 Maryland Avenue SW., LBJ, Room 2E117, Washington, DC 20202–4537.

FOR FURTHER INFORMATION CONTACT: Electronically mail ICDocketMgr@ed.gov. Please do not send comments here.

SUPPLEMENTARY INFORMATION: The Department of Education (ED), in accordance with the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3506(c)(2)(A)), provides the general public and Federal agencies with an opportunity to comment on proposed, revised, and continuing collections of

7.0 Scoping Document



**US Army Corps
of Engineers®**
Buffalo District

SCOPING INFORMATION

**Blanchard River Watershed Study
Section 441, Water Resources Development Act of 1999**



December 10, 2012

**U.S. Army Corps of Engineers
Buffalo District
1776 Niagara Street
Buffalo, New York 14207-3199**

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1.0 INTRODUCTION

The National Environmental Policy Act (NEPA) directs Federal agencies to initiate "an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action." The U.S. Army Corps of Engineers (USACE)-Buffalo District has prepared this scoping information to elicit public and agency concerns and comments, clearly define the environmental issues and alternatives that should be examined, and identify any Federal, state and local requirements that may need to be addressed in this study regarding the options for flood risk management and possible ecosystem restoration along the Blanchard River in the City of Findlay (Hancock County) and the Village of Ottawa (Putnam County), Ohio.

2.0 PURPOSE AND NEED FOR THE PROJECT

2.1 Overview

The Blanchard River Watershed is a sub-area of the western Lake Erie Basin in northwestern Ohio and covers 771 square miles (1,967 square kilometers), with 343 square miles (888 square kilometers) occurring upstream of Findlay. The study area includes the watershed boundaries of the Blanchard River within Putnam, Hancock, Seneca, Allen, Hardin and Wyandot Counties (Figure 1). The Blanchard River Watershed drains directly to the Auglaize River and eventually to the Maumee River and Lake Erie.

The City of Findlay is located approximately 50 miles (80 kilometers) south of Toledo and approximately 50 river miles upstream of the confluence of the Blanchard and Auglaize Rivers. The population estimate for Findlay, Ohio from the 2010 census included 41,202 residents. The City of Findlay is the Hancock County seat and an important regional business center, including the headquarters of several large corporations. The Village of Ottawa, Ohio occurs approximately 65 miles (105 kilometers) southwest of Toledo, Ohio. The population estimate for the Village of Ottawa from the 2010 census included 4,460 residents.

The Blanchard River Watershed is prone to frequent flooding with significant flood damages repeatedly occurring at Findlay and Ottawa. The repetitive flooding and associated damages is what prompted the study authorization in 1999.

2.2 Need for Action

The purpose of this study is to investigate the best options for minimizing or eliminating future flood damages in the vicinity of the City of Findlay and the Village of Ottawa as a result of flooding events within the Blanchard River Watershed. The Blanchard River has reached or exceeded major flood stage 23 times since 1913. Of these, nine have occurred since 1990. For events between 1990 and 2012, five are among the top ten stages ever recorded, three have peaked at more than three feet over

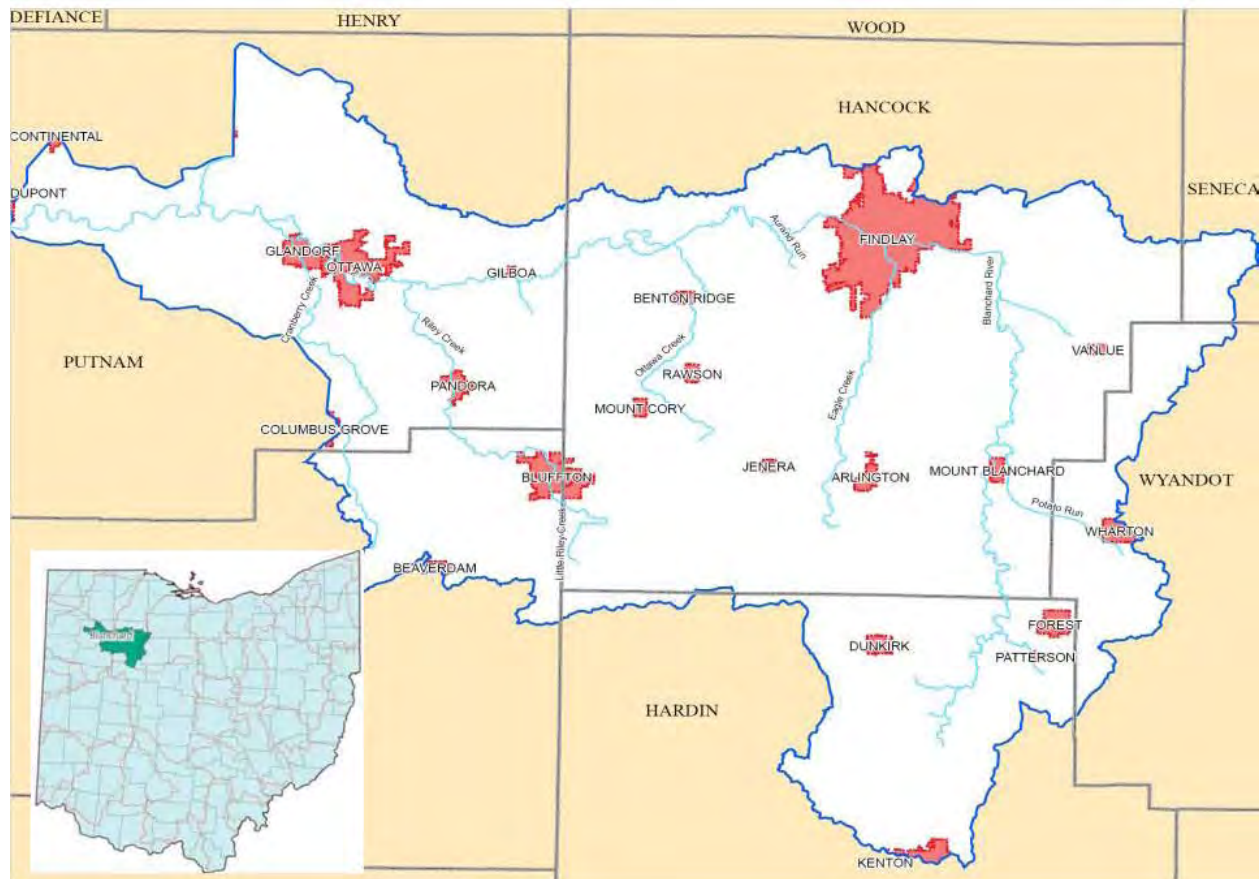


Figure 1. Blanchard River Watershed and location of the City of Findlay and the Village of Ottawa, Ohio. (Sources: Blanchard River Watershed Assessment, 2009).

major flood stage, and one (the August 2007 event) reached a peak flood stage only 0.04 feet less than the peak stage ever recorded in 1913. Damages during the August 2007 event alone were estimated by the Northwest Ohio Flood Mitigation Partnership to be roughly \$60 million in the Findlay area and \$20 million in the Ottawa area.

2.3 Proposed Project

The main goal of this study is to identify feasible flood risk management options for the Blanchard River watershed, including:

- Reduce flood risk and flood damages in the City of Findlay and Village of Ottawa, Ohio. Overall annual damages and the frequency of road closures should be significantly reduced.
- Restore riparian wetland habitat along the Blanchard River and other applicable areas in conjunction with other flood risk management measures.
- Provide recreational opportunities and enhanced connection to the river in conjunction with other project measures.

2.4 Study Authority

The Water Resources Development Act of 1999 (WRDA 99) provides authorization for this study under Section 441 – Western Lake Erie Basin, Ohio, Indiana and Michigan. It states:

“(a) IN GENERAL.—The Secretary shall conduct a study to develop measures to improve flood control, navigation, water quality, recreation, and fish and wildlife habitat in a comprehensive manner in the western Lake Erie basin, Ohio, Indiana, and Michigan, including watersheds of the Maumee, Ottawa, and Portage Rivers.; (b) COOPERATION.—In carrying out the study, the Secretary shall— (1) cooperate with interested Federal, State, and local agencies and nongovernmental organizations; and (2) consider all relevant programs of the agencies.

3.0 **ALTERNATIVE PLANS**

The USACE Buffalo District initiated a Feasibility Study and prepared an Interim Feasibility Scoping Report in December 2011. It describes existing conditions and expected future without project conditions for the Blanchard River watershed including the City of Findlay and Village of Ottawa, and documents the preliminary screening of measures leading to alternatives identified for further study in the planning process.

3.1 Alternatives Considered

Under USACE regulations, water resource studies typically cover a 50-year study period of analysis to evaluate benefits, costs and other impacts for projects under consideration. It is USACE planning policy to consider practicable and relevant alternative measures, including a no action alternative. While the preferred alternative has not yet been established, the alternative plans considered during the study will consist of an array of structural and nonstructural measures within the Blanchard River watershed and in particular the City of Findlay and Village of Ottawa. Structural measures may include, but are not limited to, channel realignment/diversion, levees and floodwall creation, culvert modification, and the creation of flood storage areas, including wetlands, bermed containment areas, and water detention areas/reservoirs. Nonstructural measures may include, but not be limited to, elevating existing buildings, relocation or acquisition of flood-prone structures, and wet and dry floodproofing. A total of nine alternative plans have been identified which includes evaluation of a no action plan. Four of the alternatives are located within Findlay, Ohio, and four are located within Ottawa, Ohio. Additional areas have been identified downstream in Ottawa that may provide suitable sites for ecosystem restoration or mitigation for the eight alternatives (Figure 2). A brief summary of the alternative plans are listed below.

- a. *Plan 1 (No Action)*. Under the no action alternative, it is assumed that no measures would be employed to address flooding events within the Blanchard River Watershed. The human population is expected to increase over the 50-year study period, leading to subsequent increases in housing development within the project area. These increases in population and development may result in an increase in peak flood discharges and more severe and frequent flood damages.

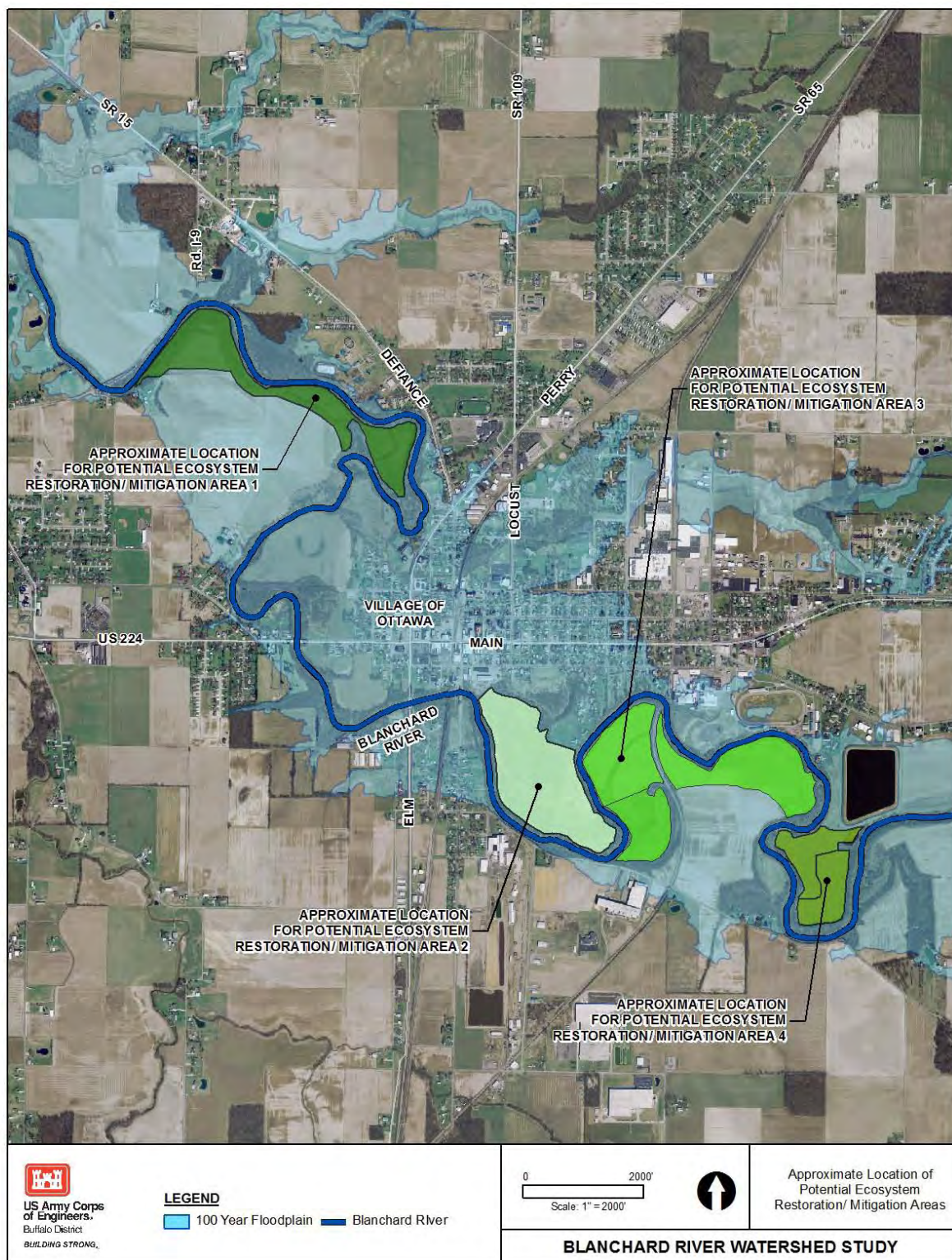


Figure 2. Approximate locations of potential ecosystem restoration/mitigation areas in Ottawa, OH.

- b. **Plan 2 (F1). Westward Diversion of Eagle Creek Flow to Downstream of Findlay, Modification of Norfolk-Southern Railroad Bridge, Building Acquisition, and Off-Line Storage Areas.** Two Westward Diversion channel alignments have been identified. Alignment 1 includes a diversion along the current path of the existing Aurand Run channel, while Alignment 2 is located in farmland to the south and west of Aurand Run, generally along the path of a valley in the subsurface rock (Figure 3). The plans include diversion control structures on Eagle Creek to allow low flows to continue downstream in Eagle Creek, while flows up to the 100-year flooding event are directed to the diversion channel. The diversion control structures include an inline earthen dam, a low flow outlet, diversion outlets, and a concrete spillway. Flood flow is directed from the current channel to the diversion outlets through trapezoidal channels. Alignment 1 includes a proposed diversion channel that is approximately 7.7 miles long with a 40 foot bottom width and a 15 foot depth (minimum). Alignment 2 includes a proposed diversion channel that is approximately 9.3 miles long with 45-80 foot bottom widths and a depth of around 14 feet (varies). Both Plans include raising and widening of the Norfolk and Southern Bridge across the Blanchard River, and acquisition of several structures currently obstructing the floodway upstream of the Norfolk and Southern Bridge.

In order to minimize increased flood damages downstream of Findlay, several floodwater storage areas between Findlay and Ottawa are included adjacent to the Blanchard River (Figure 4). Earthen berms will keep existing low lying areas free from flooding until the water surface elevations in the Blanchard River overtop the overflow structures lined with riprap that are constructed within the berm, thus allowing flood waters to enter the storage areas. As river levels recede the stored water will then slowly drain back into the river via gated outlet pipes.

- c. **Plan 3 (F2). Westward Diversion of Eagle Creek Flow to Downstream of Findlay, Modification of Norfolk-Southern Bridge Combined with the Blanchard to Lye Diversion Cutoff and Non-Structural Mitigation of Induced Flooding Upstream of Lye Creek.** The construction of an earthen levee across the existing floodwater flow path from the Blanchard River to Lye Creek was evaluated and combined with Plan F1 (Figure 5). The embankment is approximately 9,800 feet long with an average height of about five feet and a top width of ten feet. The alignment extends north to south, and crosses both Township Road 173 and County Road 205. To meet the necessary grade for the levee, Township Road 173 may need to be raised approximately two feet and CR 205 may need to be raised approximately six feet. Temporary access roads will be needed on both sides of County Road 205 to provide access for equipment and vehicles during construction. In order to mitigate for anticipated higher increased flow in the Blanchard River upstream of its confluence with Lye Creek, structures in these areas are being evaluated for non-structural protection (acquisition, elevation, or flood proofing). The diversion cutoff levee may isolate approximately 110 acres of farmland between the levee and the Blanchard River. Use of this area could be explored and be made part of the plan as it may provide a suitable site for ecosystem restoration or mitigation of potential wetland impacts by the project.

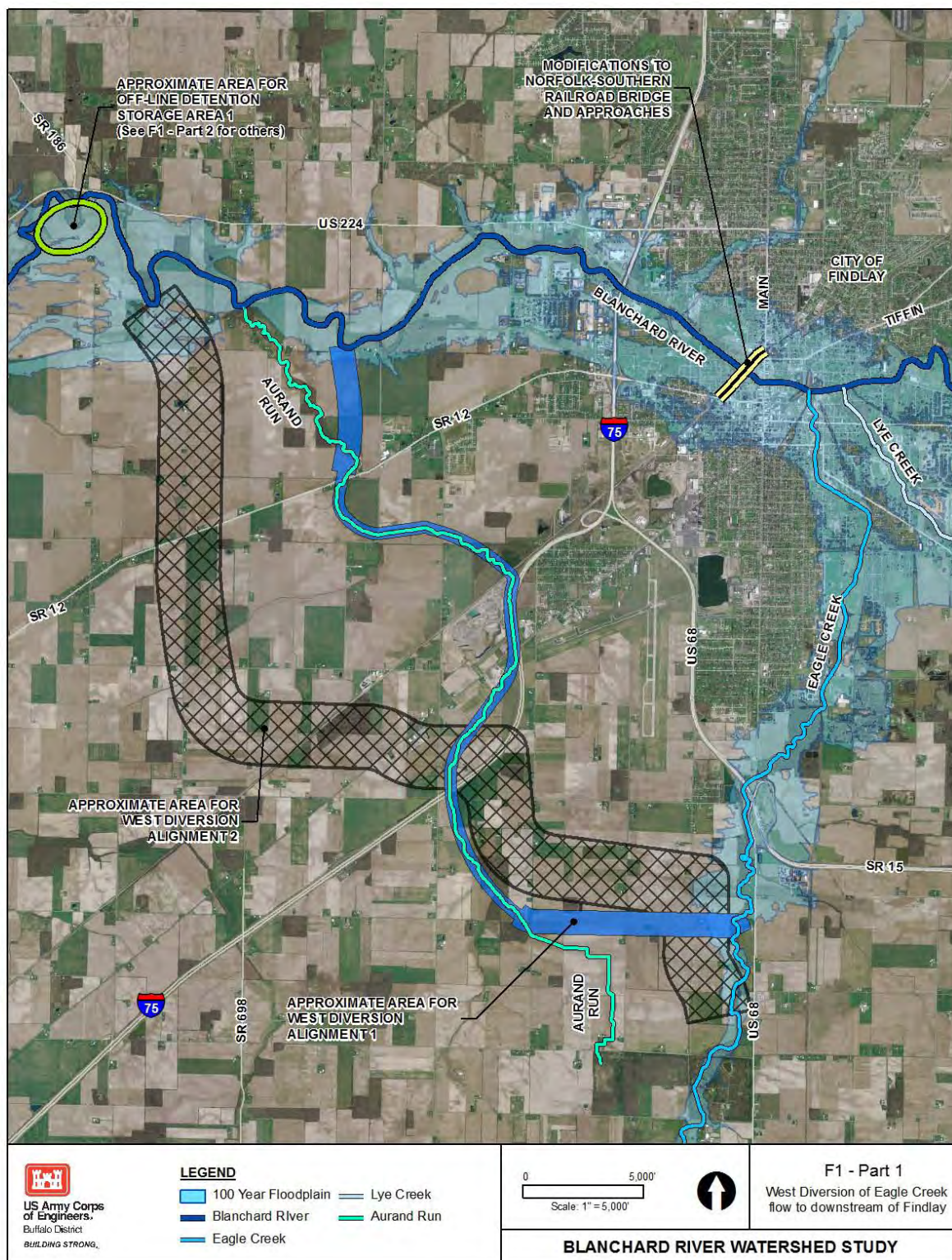


Figure 3. Alternative Plan F1 – Part 1. Approximate location of two different alignments for Diversion of Eagle Creek flow to the west downstream of Findlay.

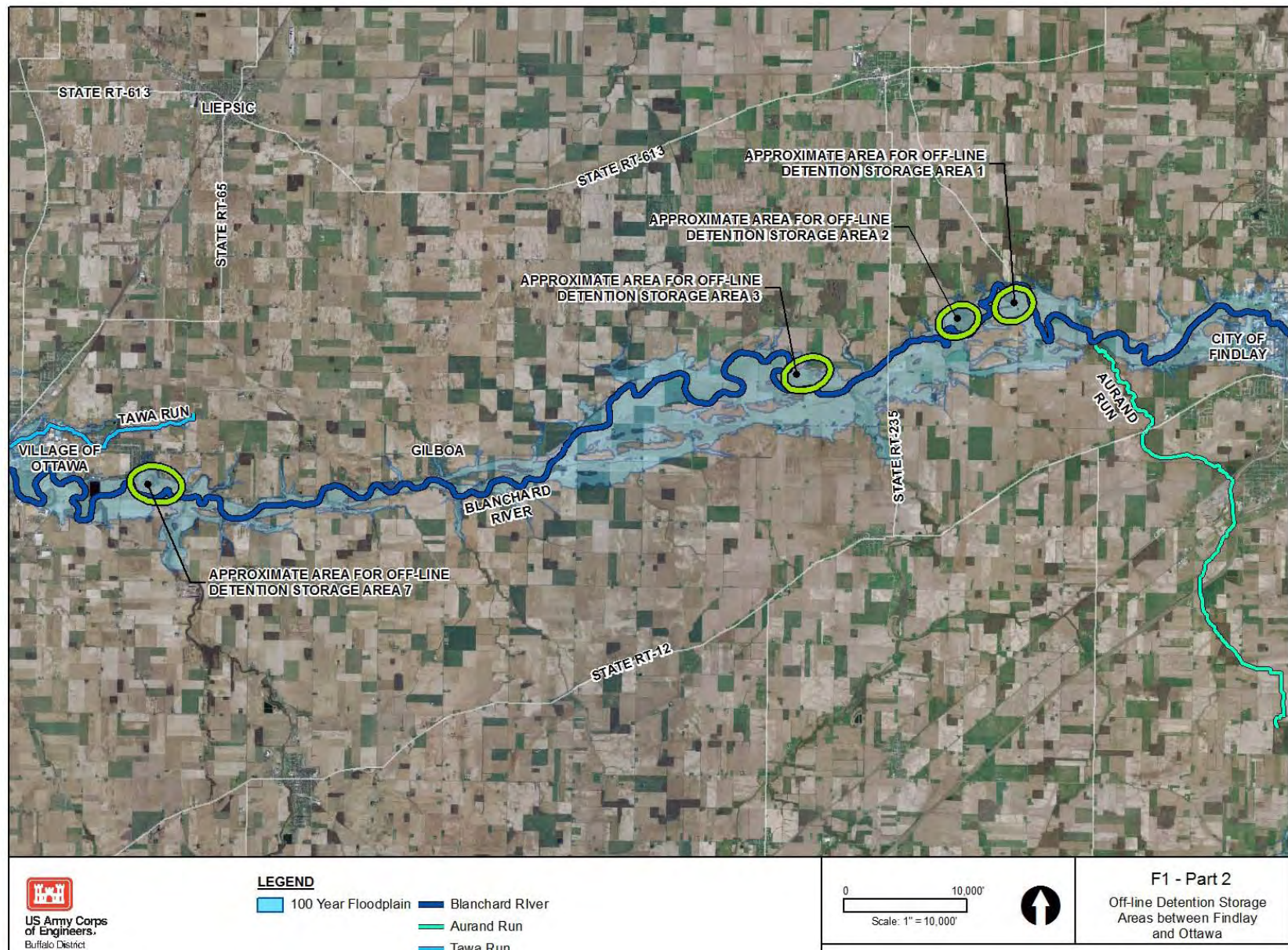


Figure 4. Alternative Plan F1 – Part 2. Approximate locations of off-line detention storage areas between Findlay, OH and Ottawa, OH.

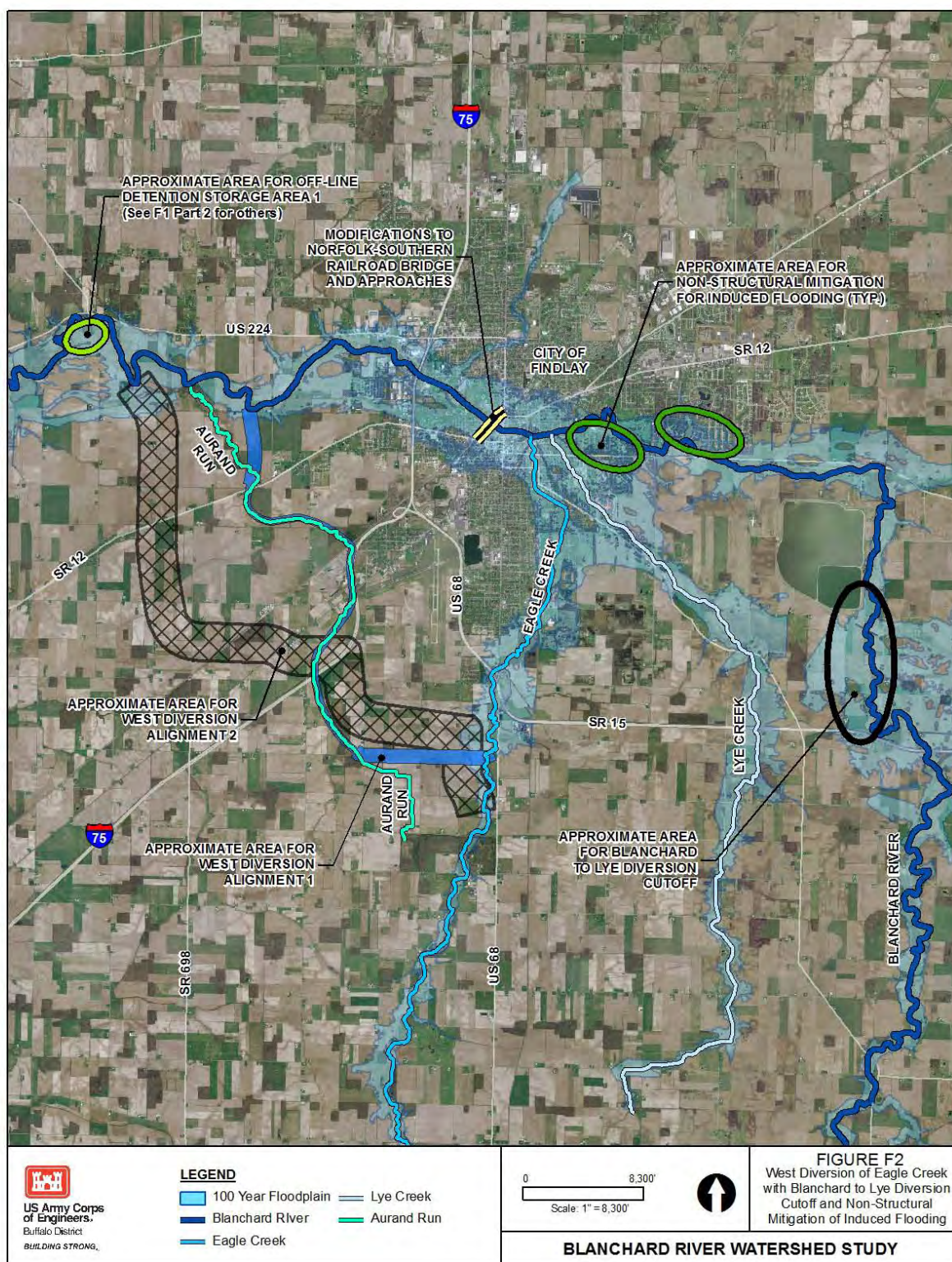


Figure 5. Alternative Plan F2. West Diversion of Eagle Creek with Blanchard to Lye Diversion Cutoff and Non-structural Mitigation of induced flooding.

- d. **Plan 4 (F3). Eagle Creek In-line Detention Combined with the Blanchard to Lye Diversion Cutoff and Non-Structural Mitigation of Induced Flooding Above Lye Creek.** The features of Plan F3 incorporate a dry detention structure at Eagle Creek located at County Road 45 combined with the Blanchard to Lye diversion cutoff and non-structural mitigation of induced flooding above Lye Creek from Plan F2 (Figure 6). The proposed dam location offers the greatest amount of flood storage capacity on Eagle Creek due to slope and topography. It would measure approximately 4,240 feet long, 25 feet wide (top width), with 3:1(horizontal:vertical) side slopes, a maximum height of approximately 26 feet, and will not maintain any permanent pool of water. The proposed roller compacted concrete spillway would be approximately 500 feet long, 18 feet tall, and have a 66 foot long stilling basin intended to safely pass flows exceeding the dam storage capacity.
- e. **Plan 5 (F4). Combined Structural/ Non-Structural.** The various structural plans for Findlay (F1, F2, and F3) can address a portion of the flood risk in the community. Non-structural options may also be incorporated into any of these structural alternatives (beyond those to address induced flooding) to provide a greater level of flood protection. This could be in the form of building retrofits, removal, elevating buildings, flood proofing, ringwalls, and buyouts (acquisition) of structures that would still be affected by flooding after structural features are in place (Figure 7). The evaluation of building elevation, flood-proofing, or ringwalls was based on providing protection to the 100 year flood event, plus one foot. The specific structural features to be included will be based on the evaluation and comparison of the structural plans discussed above. The non-structural features will be developed and analyzed for buildings in the 5 year, 10 year, and 25 year floodplains that would remain after construction of the structural features. The evaluation identifies potentially feasible non-structural approaches for each structure, and selects the most effective but least cost approach.
- f. **Plan 6 (O1). Modification of the I-9 Bridge Embankment.** The I-9 Bridge downstream of Ottawa has a high embankment that runs parallel to the Blanchard River for several hundred feet on the north side of the river (Figure 8). Removing a portion of this embankment will restore flow to the floodway on the right overbank and will reduce upstream flood elevations.
- g. **Plan 7 (O2). Modification of the I-9 Bridge Embankment Combined with Non-Structural Plans.** The modification of the I-9 embankment contained in Plan O1 addresses a limited portion of the existing flood problem. This plan would provide more extensive flood protection in Ottawa through building retrofits, buyouts (acquisition), removal of affected structures, elevating buildings, flood proofing, and ringwalls which would provide protection to the 100 year flood event, plus one foot. The non-structural risk management features will be developed and analyzed for buildings in the 5 year, 10 year, 25 year, and 100 year floodplains that would remain after construction of the structural features (Figure 9). The evaluation identifies potentially feasible non-structural approaches for each structure, and selects the most effective but least cost approach for comparing different plans.

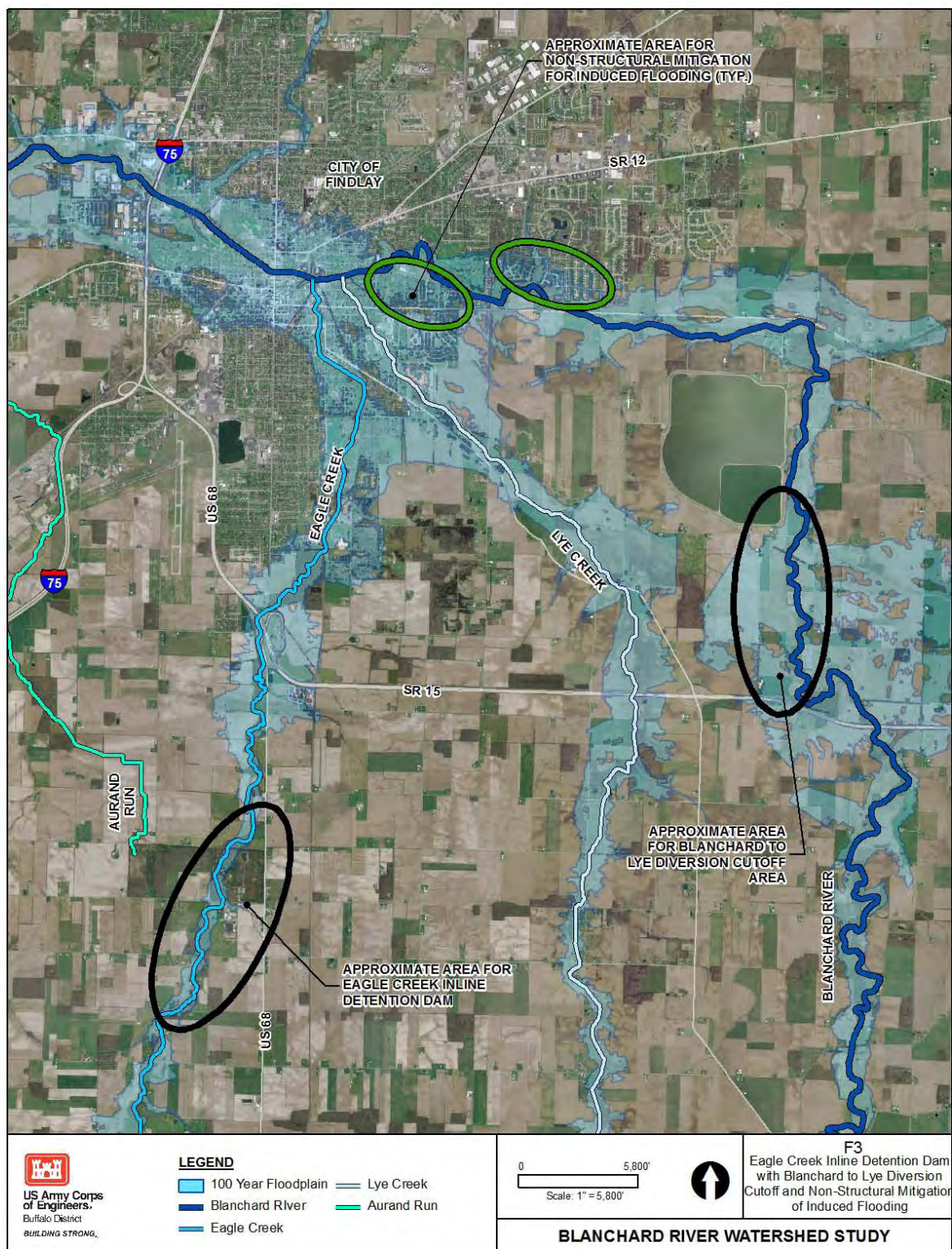


Figure 6. Alternative Plan F3. Eagle Creek In-line Detention with Blanchard to Lye Diversion Cutoff and Non-structural mitigation of induced flooding.



Figure 7. Examples of Non-structural measures.



Figure 8. Alternative Plan O1. Modification of I-9 Bridge Embankment located west and downstream of Village of Ottawa, OH.

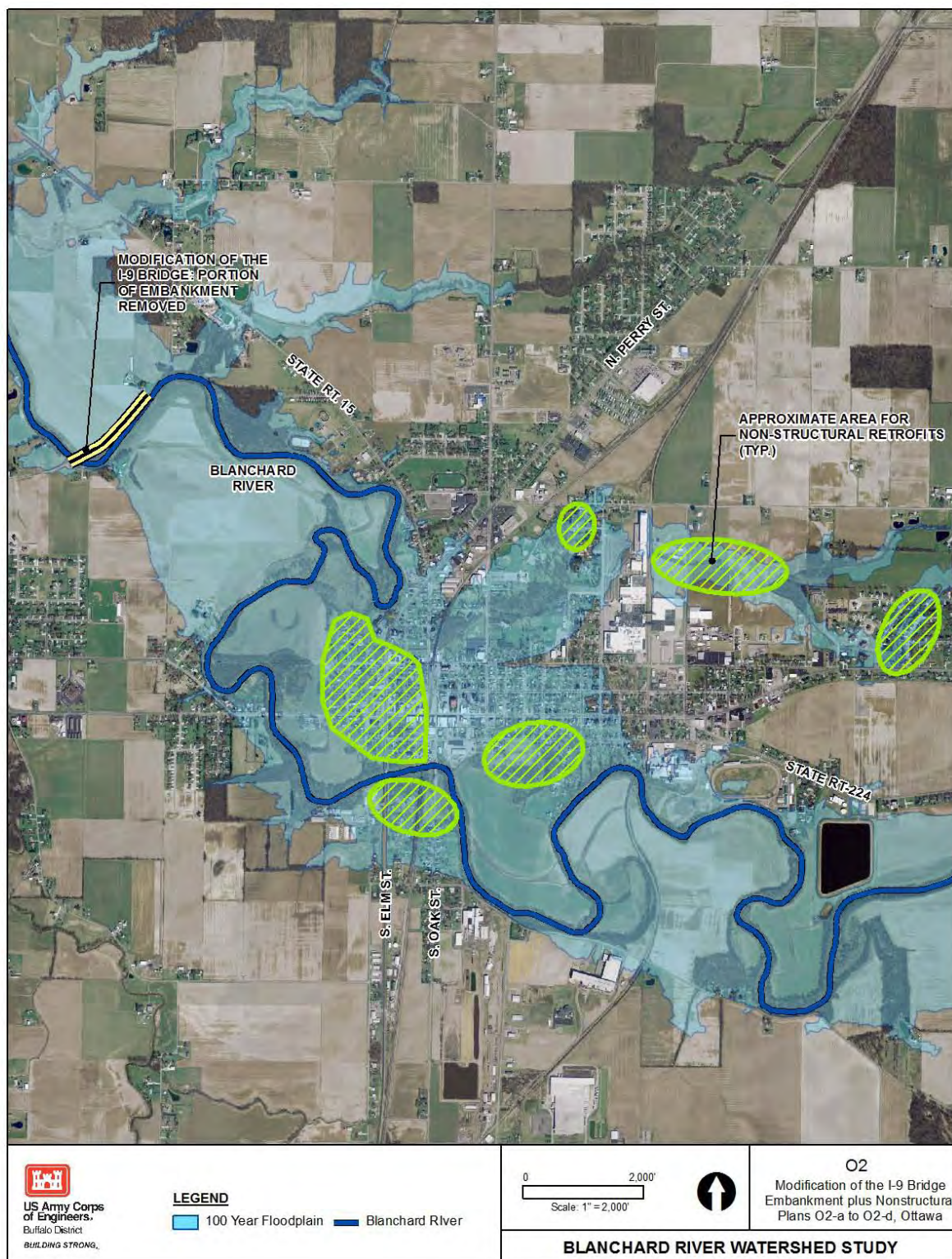


Figure 9. Alternative Plan O2. Modification of the I-9 bridge embankment plus approximate locations of where non-structural measures are being investigated. Additional areas not indicated above may also qualify for non-structural investigation.

- h. **Plan 8 (O3). Modification of the I-9 Bridge Embankment Combined with Off-Line Storage at Locations between Findlay and Ottawa.** In order to reduce peak flows reaching Ottawa, consideration is given to the construction of low level berms (average height of 10 feet) around a portion of some low-lying fields between Findlay and Ottawa to create temporary floodwater detention areas. Initially, eight potential locations were identified and the four locations shown in Figure 10 were selected as the most effective. The proposed structures would keep the low lying areas free from flooding until the water surface elevations on the Blanchard River reach the proposed weir elevations on these berms. Blanchard River flows would then overtop the overflow structures lined with riprap that are within the berm and enter the storage areas, which would then drain back into the Blanchard River via the same outlet structures. The weir elevations are currently selected to overtop during the 10 to 25 year flood events.
- i. **Plan 9 (O4). Modification of the I-9 Bridge Embankment Combined with Channel Diversion in Ottawa.** Plan O4 includes modification of the I-9 embankment and incorporates additional conveyance capacity through a new short diversion channel (Figure 11). The proposed channel realignment is located downstream of the Elm Street Bridge and is approximately 0.75 miles long, 20 feet wide, and 24 feet deep (average), with 2.5:1 side slopes. Normal flows will be maintained in the existing Blanchard River channel and flood flows will be directed into the diversion channel. The area adjacent to the Blanchard River channel and to the east of the diversion channel is one of the areas in Ottawa that may be suitable for ecosystem restoration or wetland mitigation.

4.0 PUBLIC PARTICIPATION AND INTERAGENCY COORDINATION

Throughout the scoping process, stakeholders and interested parties are invited to provide comment on this study. Potential social, economic and environmental benefits and adverse impacts that would result from each alternative plan selected for detailed analysis will be addressed in future documentation. Interested parties are welcome to contact USACE-Buffalo District to discuss their views and recommendations regarding this study. Four public scoping meetings concerning this project are taking place in December, 2012, which include:

- (1) December 10, 2012 at 6:30 p.m. – 8:30 p.m. at the Ottawa-Glandorf High School Auditorium, 630 Glendale Ave. Ottawa, OH;
- (2) December 11, 2012 at 9:00 a.m. – 11:00 a.m. at the Putnam County Educational Service Center, 124 Putnam Parkway, Ottawa, OH;
- (3) December 11, 2012 at 7:00 p.m. – 9:00 p.m. at the Findlay High School Auditorium, 1200 Broad Avenue, Findlay, OH; and,
- (4) December 12, 2012 at 9:00 a.m. – 11:00 a.m. at the Hancock County Agricultural Service Center, 7868 County Road 140, Findlay, OH.

Comments from those attending the meetings will be accepted either at those meetings or by mail/email until the close of this scoping period on January 11, 2012.

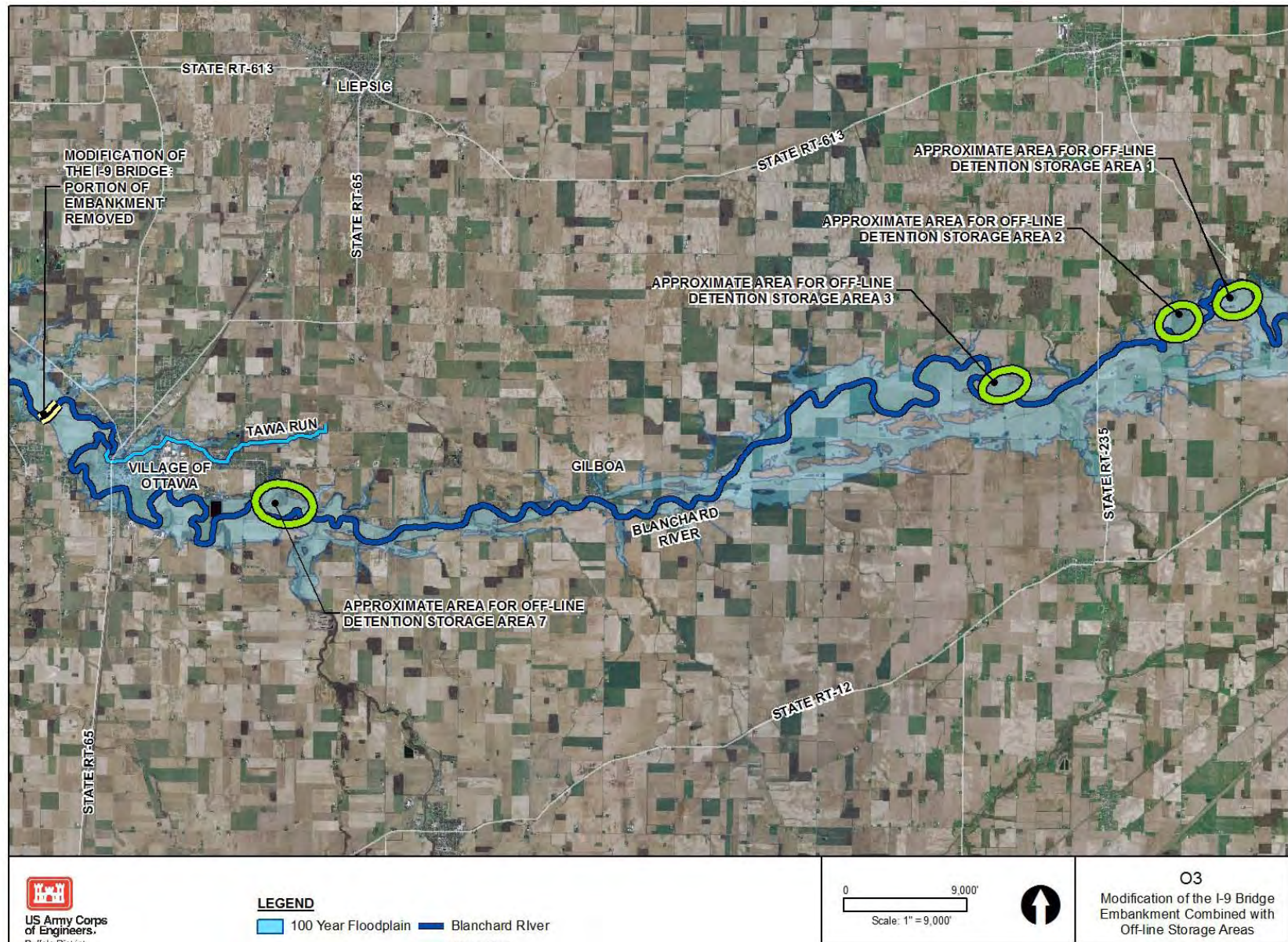


Figure 10. Alternative Plan O3. Modification of I-9 Embankment combined with off-line storage areas between Findlay, OH and Ottawa, OH.

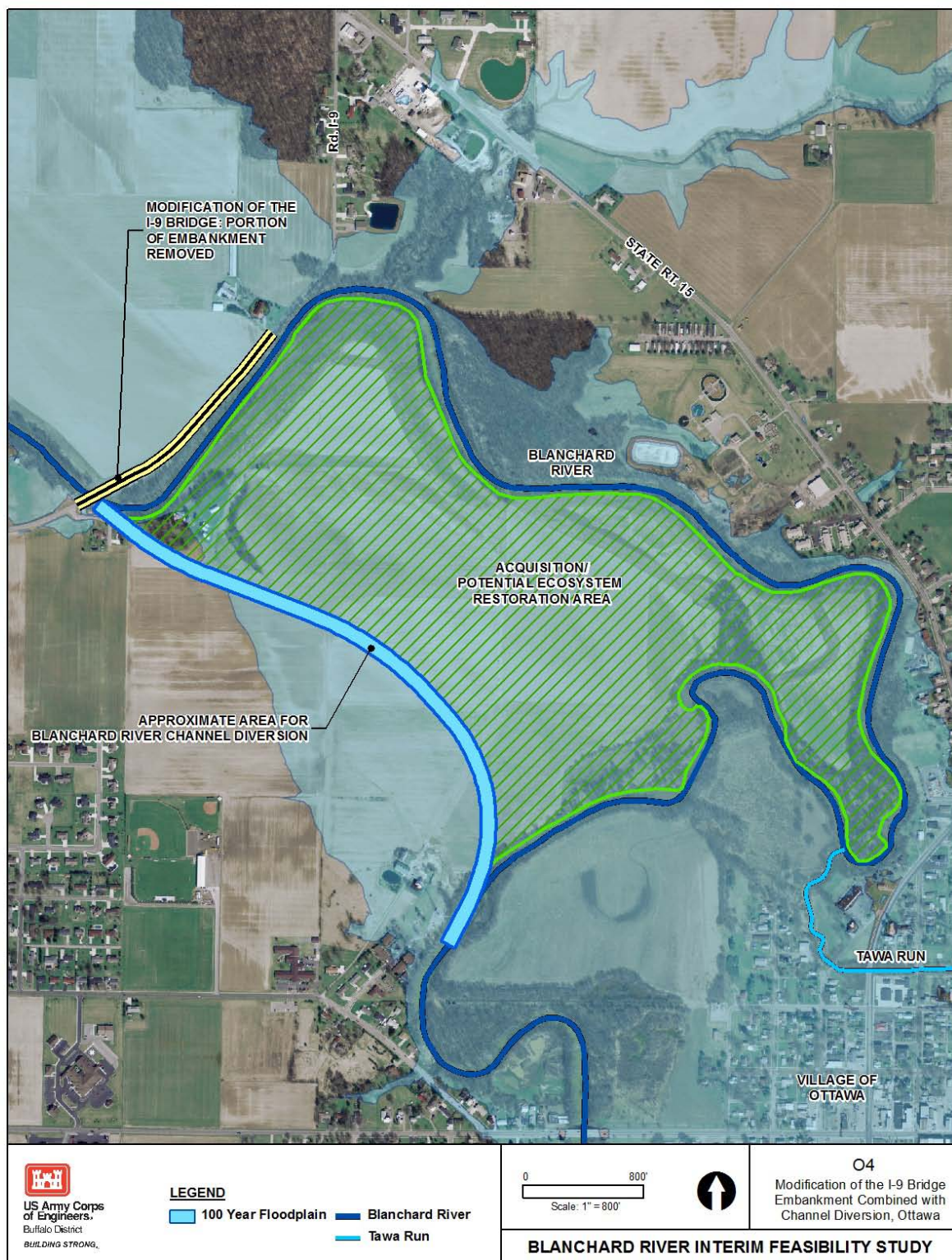


Figure 11. Alternative Plan O4. Modification of the I-9 Bridge embankment combined with Channel Diversion in Ottawa, OH.

5.0 IMPACT ASSESSMENT

In accordance with Section 102(2)(c) of the NEPA of 1969, as amended, and other applicable agency implementing regulations, an environmental impact statement (EIS) will be prepared for this study and a Notice of Intent to prepare this EIS was published in the Federal Register on November 28, 2012. This EIS will inform decision makers and the public of reasonable alternatives to reduce the risk of loss of life and property damage from flooding in these areas and that would also avoid or minimize adverse impacts and/or enhance the quality of the human environment. The feasibility study and EIS will be consistent with sound engineering practices and will be drafted concurrently with actions to achieve compliance with other applicable Federal environmental compliance requirements and consistent with State and local plans. Future conditions with the no action alternative and any potential impacts associated with the preferred alternative will be assessed in relation to several parameters, including but not necessarily limited to the following social, economic and environmental categories:

- Fish and Wildlife Resources
- Water Quality
- Dredged/Excavated Material Management
- Geology and Soils
- Contaminated Materials
- Air Quality
- Noise
- Recreation
- Historic Properties
- Property Values and Tax Revenues
- Employment
- Community Cohesion and Growth
- Transportation
- Public Facilities and Services
- Aesthetics
- Environmental Justice

6.0 COMPLIANCE WITH ENVIRONMENTAL PROTECTION STATUTES

Federal environmental protection statutes that will be addressed are listed below, with additional potentially applicable public laws, executive orders, and policies listed in Table 1:

- *National Environmental Policy Act (NEPA)*. In accordance with the Council on Environmental Quality's "Regulations for Implementing the Procedural Provisions of the NEPA of 1969" (40 CFR 1500-1508) and Engineer Regulation 200-2-2 (Procedures for Implementing NEPA), USACE-Buffalo District will assess the potential environmental effects of the study alternatives on the quality of the human environment. Using a systematic and interdisciplinary approach, an assessment will be made of the potential environmental impacts (including cumulative impacts) for each plan as determined by comparing the with- and without-project conditions.
- *Clean Water Act*. If the recommended plan involves the placement of dredged or fill material into waters of the United States, USACE-Buffalo District will evaluate the discharge in accordance with the Clean Water Act Section 404(b)(1) Guidelines. Water quality and related information used in this evaluation will provide documentation to demonstrate that the recommended plan is in compliance with this Act. A Section 404(a) Public Notice will be circulated and an opportunity to request a public hearing will be afforded to all potentially

affected parties. Section 401 Water Quality Certification for the discharge would be requested from the Ohio Environmental Protection Agency (OEPA).

Under Section 402 of the Act, if the recommended plan disturbs greater than one acre of ground surface, then USACE-Buffalo District would develop a Stormwater Pollution Prevention Plan and submit it along with a Notice of Intent to the OEPA for coverage under their State Pollutant Discharge Elimination System general permit for construction activities.

- *Endangered Species Act.* In accordance with Section 7 of this Act, USACE-Buffalo District is requesting information from the U.S. Fish and Wildlife Service (USFWS) on any listed or proposed species, or designated or proposed critical habitat that may be present in the project area. If this consultation with USFWS identifies any such species or critical habitat, then USACE-Buffalo District will conduct a biological assessment to determine the proposed project's effect on these species or critical habitat.

The Blanchard River drainage supports 33 state-listed species, including 20 plants, seven invertebrates, four birds, and two reptiles. According to the USFWS, there are six Federally-listed species and/or their respective habitats within the Blanchard River Watershed. Of these, one is a mammal (Indiana bat, *Myotis sodalis*, endangered), two are invertebrates (clubshell, *Pleurobema clava* [extirpated] and rayed bean, *Villosa fabalis*, both endangered), two are reptiles (copperbelly watersnake, *Nerodia erythrogaster neglecta*, threatened, and eastern massasauga rattlesnake, *Sistrurus catenatus catenatus*, candidate), and one is a bird (bald eagle, *Haliaeetus leucocephalus*, species of concern). The USACE has been in early consultation with the USFWS, OEPA, and Ohio Department of Natural Resources (ODNR) regarding this project since 2010 to obtain their guidance and input as early in the study process as possible. None of these species would be expected to be affected by the proposed project.

- *National Historic Preservation Act.* Under Section 106 of this Act, this scoping document initiates consultation with the National Park Service and local historic preservation organizations, and provides additional information for continuing consultation with the Ohio Historic Preservation Office. Since this study may affect resources and important sites located within the ancestral homelands of several Indian Nations, this scoping information has also been sent to them along with a separate letter inviting them to consult on this project.

In compliance with Section 106 of the National Historic Preservation Act and 36 Code of Federal Regulations Part 800 (Protection of Historic Properties) and under contract with the study's non-Federal sponsor (Hancock County), the Mannick & Smith Group, Inc. has initiated the identification phase for the study's area of potential effects (APE) which are shown in Figures 12 through 14. Copies of the reports for these areas have been provided to the Ohio Historic Preservation Office and potentially interested Indian Nations.

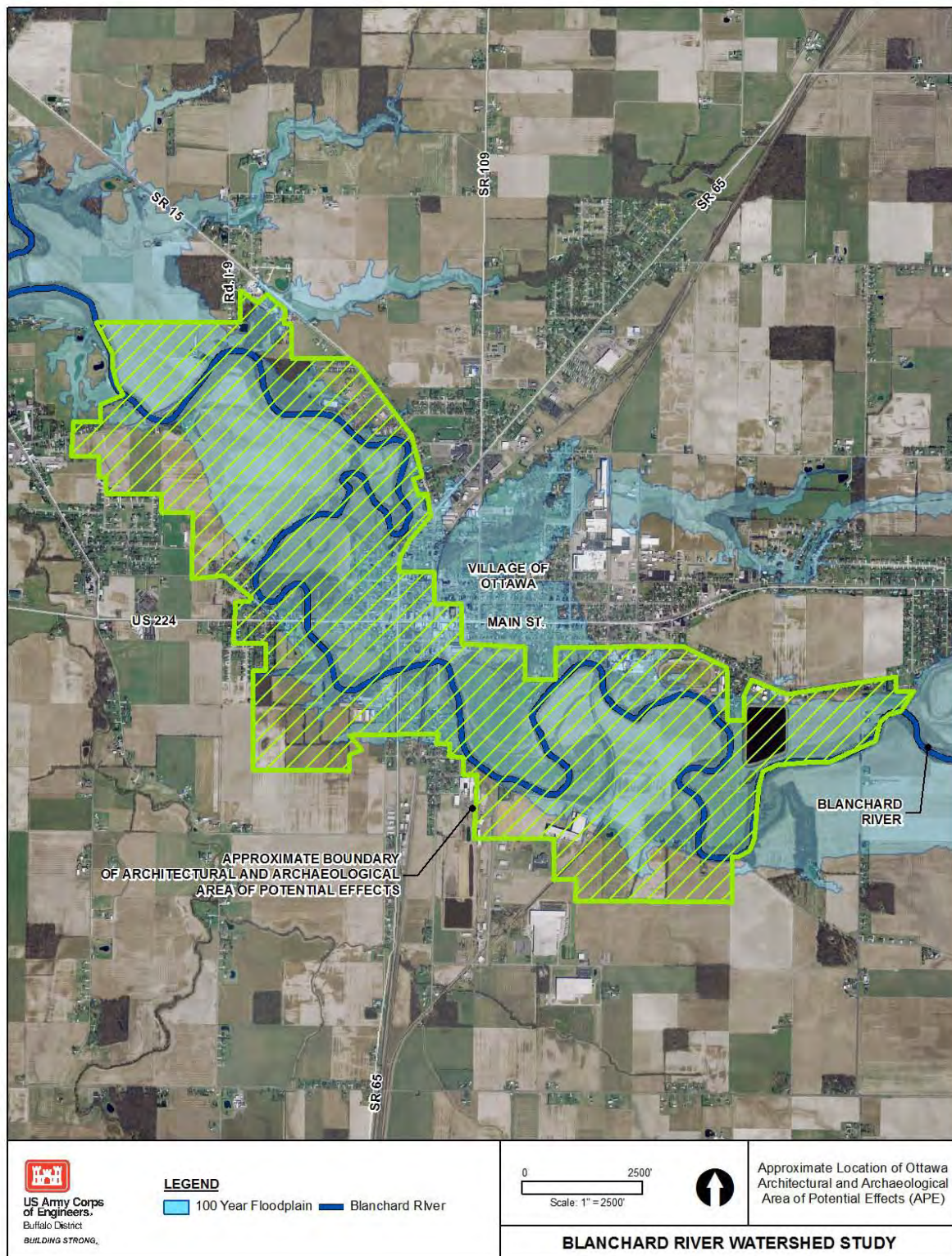


Figure 12. Approximate location of combined Ottawa architectural and archaeological area of potential effects (APE).

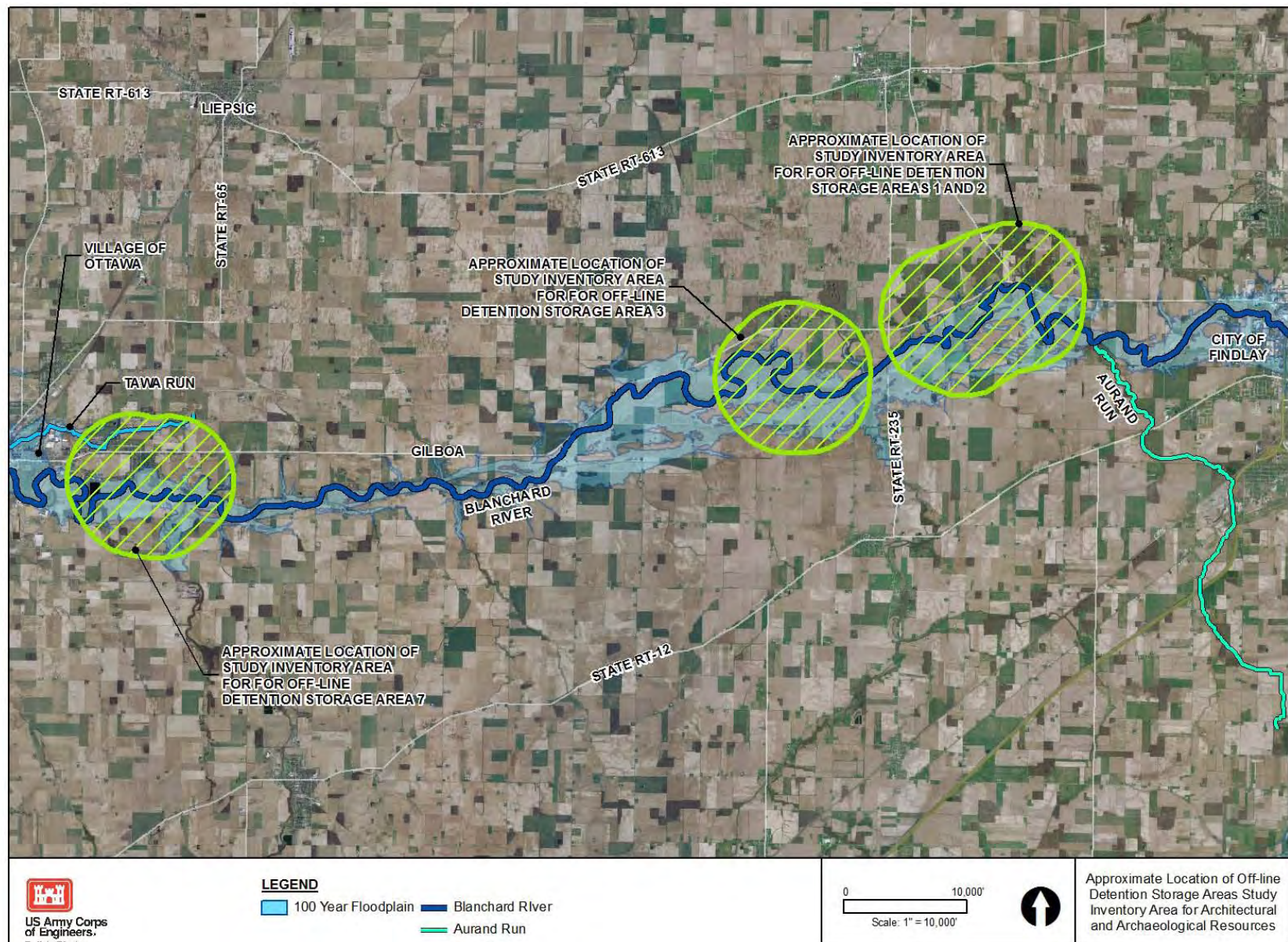


Figure 13. Approximate location of off-line detention combined APE for architectural and archaeological resources.

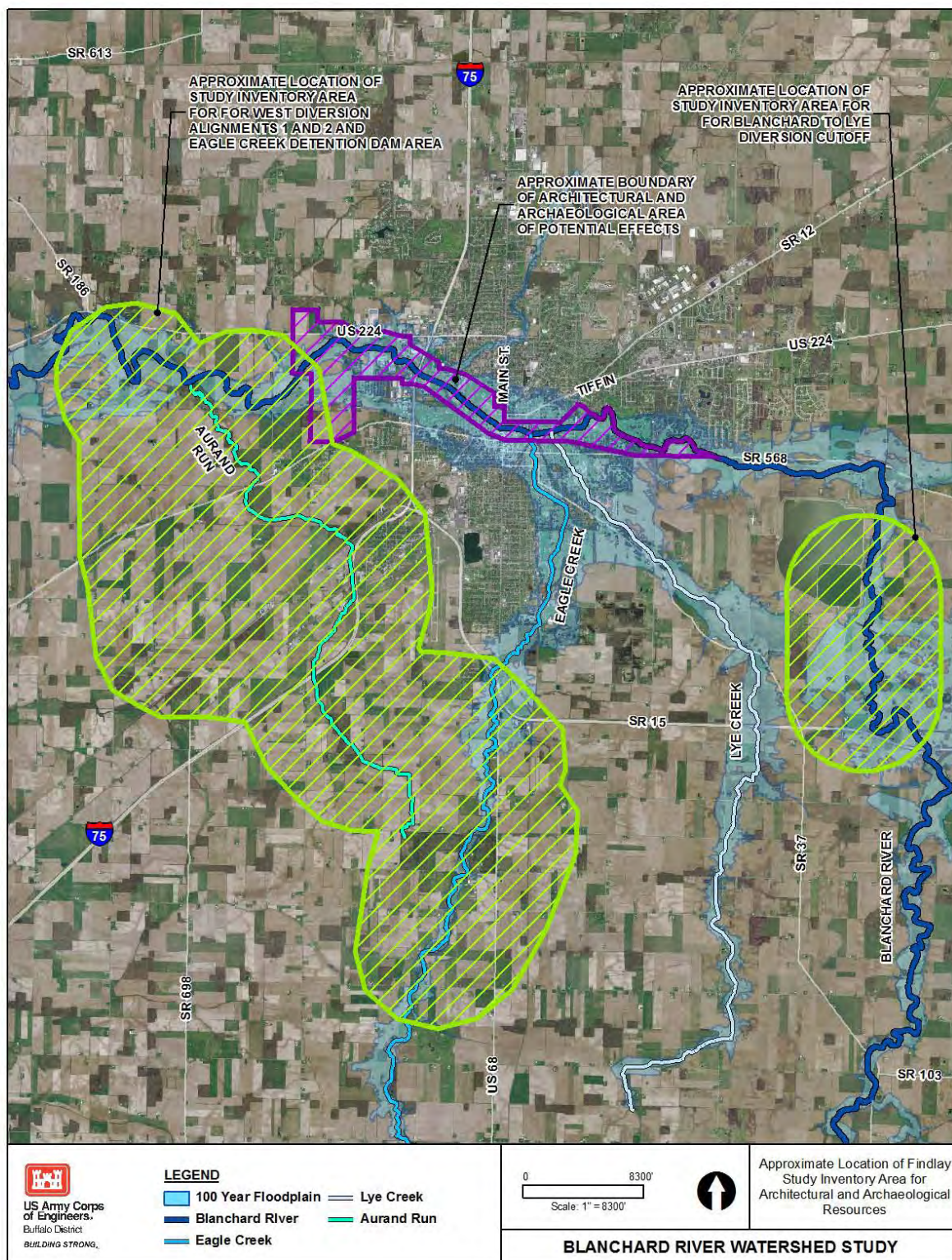


Figure 14. Approximate location of Findlay combined architectural and archaeological APE.

Historic properties identified to date in the area of potential effects (APE) include:

Ottawa

A total of two National Register Sites (NR), 52 Ohio Historic Inventory architectural sites (OHI), and three Ohio Archaeological Inventory (OAI) sites exist within the Area of Potential Effects for measures considered in Ottawa to manage flood risks (Figure 12). Most of the architectural sites are associated within the Village of Ottawa while the archaeological sites are located along the Blanchard River floodplain. One archaeological site is located within the approximate location of the diversion channel being considered in Ottawa. Additional Phase II investigations will be required if this measure is included in the final flood risk management recommended plan.

Off-line Storage Areas (located between Findlay and Ottawa)

No National Register sites exist within the four (4) proposed Off-line Storage Area APE's (Figure 13). However, three architectural sites and 36 archaeological sites were identified for these areas in the Ohio Historic Inventory (OHI) and Ohio Archaeological Inventory (OAI), respectively. . In addition, five sites listed in Mills' Archaeological Atlas of Ohio (1914) are situated within the inventory boundaries. The Mills listed sites are considered approximate and additional archaeological investigations will be required to determine location and significance. Phase I investigations will be completed if the Off-line Storage Areas are included in the recommended Plan.

Findlay

Information on cultural resources is based upon completed Phase I Cultural Resource Survey's within the APE, as well as on an inventory of areas for measures that were added since the earlier Phase I investigations were completed (Figure 14). A total of five National Register Sites were identified, with one consisting of the Findlay Historic District located in downtown Findlay along Main Street. Additional cultural resources consist of a total of 62 sites listed on the Ohio Historic Inventory (mostly associated within the City of Findlay) and another 20 sites included in the Ohio Archaeological Inventory (OAI). Additional Phase I investigations and coordination with the Ohio Historic Preservation Office will be required.

Table 1. Summary of historic properties or potentially eligible properties identified to date within the Blanchard River Watershed Study APE.

Project Area	National Register Sites (NRDOE)⁽⁵⁾	Ohio Historic Inventory (OHI) Structures - Architecture	Ohio Archaeological Inventory (OAI) Sites⁽⁶⁾
Ottawa⁽¹⁾	2 (0)	52	3
Off-line Storage Areas⁽²⁾	0 (0)	3	36
Findlay⁽¹⁾⁽³⁾⁽⁴⁾	5 (0)	62	20

(1) Based on designated Area of Potential Effects (APE) from original Phase I Cultural Survey completed when Levee/Walls were under consideration.

(2) Based on Inventory Area (1 mile study area around proposed locations)

(3) Includes Findlay Historic District

(4) Based on Modified Inventory Area (Original was done at 2 mile study area around proposed project locations but went with estimated 1 mile)

(5) NRDOE = National Register Determination of Eligibility

(6) Excludes Mills sites but addressed in narrative

7.0 POINT OF CONTACT

Interested parties are encouraged to contact the USACE-Buffalo District Project Team with any comments regarding the Blanchard River Watershed Study. Questions or requests for additional information may be directed to:

Buffalo District Project Team

Telephone No.: 800-833-6390

E-mail: Blanchard.NEPA@usace.army.mil

Please review the study information and present any comments in writing within thirty (30) days to the attention of the Buffalo District Project Team to the email address listed above or at the following address:

U.S. Army Corps of Engineers
Buffalo District
1776 Niagara Street
Buffalo, NY 14207-3199

Thank you for your interest and review of this project.

Table 2. Federal Environmental Protection Laws, Executive Orders, and Policies.**1. PUBLIC LAWS**

- a. American Folklife Preservation Act, P.L. 94-201; 20 U.S.C. 2101, *et seq.*
- b. American Indian Religious Freedom Act, P.L. 95-341, 42 U.S.C. 1996, *et seq.*
- c. Anadromous Fish Conservation Act, P.L. 89-304; 16 U.S.C. 757, *et seq.*
- d. Antiquities Act of 1906, P.L. 59-209; 16 U.S.C. 431, *et seq.*
- e. Archaeological and Historic Preservation Act, P.L. 93-291; 16 U.S.C. 469, *et seq.* (Also known as the Reservoir Salvage Act of 1960, as amended; P.L. 93-291, as amended; the Moss-Bennett Act; and the Preservation of Historic and Archaeological Data Act of 1974.)
- f. Archaeological Resources Protection Act, P.L. 96-95 as amended, 16 U.S.C. 470aa, *et seq.*
- g. Bald Eagle Protection Act; 16 U.S.C. 668.
- h. Clean Air Act, as amended; P.L. 91-604; 42 U.S.C. 1857h-7, *et seq.*
- i. Clean Water Act, P.L. 92-500; 33 U.S.C. 1251, *et seq.* (Also known as the Federal Water Pollution Control Act; and P.L. 92-500, as amended.)
- j. Coastal Zone Management Act of 1972, as amended, P.L. 92-583; 16 U.S.C. 1451, *et seq.*
- k. Comprehensive Environmental Response, Compensation, and Liability Act, P.L. 96-510, 42 U.S.C. 9601, *et seq.*
- l. Endangered Species Act of 1973, as amended, P.L. 93-205; 16 U.S.C. 1531, *et seq.*
- m. Energy Independence and Security Act, P.L. 110-140, 42 U.S.C. 15821, *et seq.*
- n. Energy Policy Act, P.L. 109-58, 42 USC 13201, *et seq.*
- o. Estuary Protection Act, P.L. 90-454; 16 U.S.C. 1221, *et seq.*
- p. Farmland Protection Policy Act, P.L. 97-98, 7 U.S.C. 4201, *et seq.*
- q. Federal Environmental Pesticide Control Act, P.L. 92-516; 7 U.S.C. 136.
- r. Federal Water Project Recreation Act, as amended, P.L. 89-72; 16 U.S.C. 460-1(12), *et seq.*
- s. Fish and Wildlife Coordination Act of 1958, as amended, P.L. 85-624; 16 U.S.C. 661, *et seq.*
- t. Historic Sites Act of 1935, as amended, P.L. 74-292; 16 U.S.C. 461, *et seq.*
- u. Land and Water Conservation Fund Act, P.L. 88-578; 16 U.S.C. 460/-460/-11, *et seq.*
- v. Migratory Bird Conservation Act of 1928; 16 U.S.C. 715.
- w. Migratory Bird Treaty Act of 1918; 16 U.S.C. 703, *et seq.*
- x. National Environmental Policy Act of 1969, as amended, P.L. 91-190; 42 U.S.C. 4321, *et seq.*
- y. National Historic Preservation Act of 1966, as amended, P.L. 89-655; 16 U.S.C. 470a, *et seq.*
- z. Native American Graves Protection and Repatriation Act, P.L. 101-601, 25 U.S.C. 3001, *et seq.*
- aa. Native American Religious Freedom Act, P.L. 95-341; 42 U.S.C. 1996, *et seq.*
- bb. Noise Control Act, P.L. 92-574, 42 U.S.C. 4901, *et seq.*
- cc. Resource Conservation and Recovery Act of 1976, P.L. 94-580; 7 U.S.C. 1010, *et seq.*
- dd. River and Harbor Act of 1899, 33 U.S.C. 403, *et seq.* (also known as the Refuse Act of 1899)
- ee. Toxic Substances Control Act, P.L. 94-469; 15 U.S.C. 2601, *et seq.*
- ff. Watershed Protection and Flood Prevention Act, as amended, P.L. 83-566; 16 U.S.C. 1001, *et seq.*
- gg. Wild and Scenic Rivers Act, as amended, P.L. 90-542; 16 U.S.C. 1271, *et seq.*

2. EXECUTIVE ORDERS

- a. Executive Order 11593, *Protection and Enhancement of the Cultural Environment*, May 13, 1979
- b. Executive Order 11988, *Floodplain Management*, May 24, 1977
- c. Executive Order 11990, *Protection of Wetlands*, May 24, 1977
- d. Executive Order 11514, *Protection and Enhancement of Environmental Quality*, March 5, 1970, as amended by Executive Order 11991, May 24, 1977
- e. Executive Order 12088, *Federal Compliance with Pollution Control Standards*, October 13, 1978
- f. Executive Order 12372, *Intergovernmental Review of Federal Programs*, July 14, 1982
- g. Executive Order 12580, *Superfund Implementation*, January 23, 1987
- h. Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*, August 3, 1993
- i. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, February 11, 1994
- j. Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, April 21, 1997
- k. Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, January 10, 2001
- l. Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 24, 2007
- m. Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, October 5, 2009

3. OTHER FEDERAL POLICIES

- a. Council on Environmental Quality Memorandum of August 11, 1980: Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act
- b. Council on Environmental Quality Memorandum of August 10, 1980: Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the National Inventory Migratory Bird Treaties and other international agreements listed in the Endangered Species Act of 1973, as amended, Section 2(a)(4)

8.0 Public and Agency Comments

All Questions for Blanchard EIS

Questions/Comments: from Ms Tonita Alvater

(1) What will happen to the cemetery south of Township Road 205 next to the river? (2) New levee would cause increased flooding of the Riverbend Recreation Area and increase in local taxes and assistance needed to repair flooding damage. (3) Levee will cause SR 568 to flood at Township Rd 241. (4) How does Real Estate formula compensate for loss of future income? (5) Will levee cut off existing tile drainage of surrounding farmland and residential areas? (6) If a flood exceeds levee capacity, how will floodwaters recede back to the river and will tile be allowed in ER area? (7) What makes the Corps sure the levee would be maintained annually by a local agency when the river isn't maintained now? (8) How will the levee address the ditch intersecting the River just north of Township Road 205? (9) Findlay's flooding problem caused by decisions by the city and County Engineer. How do we know they will not adversely affect what the Corps implements? (10) It is the farming community that is impacted to fix the problems and reduce the complaints from the city of Findlay.

- 1) The existing cemetery south of Township Road 205 is not anticipated to be within the footprint of the proposed Blanchard to Lye Diversion Cutoff (BLDC) levee and therefore is not expected to be impacts through the implementation of the proposed project. The cemetery south, however, already lies within the existing 100 year floodplain.**
- 2) Under the current tentatively selected plan it is expected that some inundation will continue to occur within the Riverbend Recreation Area; however, the full extent of the areas and the depth of inundation are not fully known presently due to the tentative nature of the selected alternatives. Most of the areas that will have inundation in the area are already within the 100 year floodplain.**
- 3) Most of the SR 568 in the area being discussed is already within the existing 100 year floodplain where the road would have to be closed during a flooding event. SR 568 upstream and downstream of Township Road 241 are also inundated under existing conditions during these storm events so emergency response personnel already have contingency plans for access to the area during large storm events. There is a chance that impacts (either through induced flooding or the implementation of a specific measure) can occur to the road in question. However, the precise locations of the flood risk management measures associated with this project and the extent of their effects can still change slightly as the Feasibility Study is completed and will not be finalized until the final Design Phase.**
- 4) Once it is determined what real estate interest is required to support the construction, operation and maintenance of the project, the Non-Federal Sponsor will be required to acquire those interests in accordance with PL 91-646, the Uniform Act. A licensed appraiser will perform an appraisal to determine the amount of just compensation for the estate that is required. There are various types**

of appraisal methods such as cost, market comparison and income approaches. The appraiser will determine the approach that is most relevant to a specific parcel and its uses.

- 5) It is anticipated that the construction of the BLDC levee will necessitate a truncation of the farm tile in the vicinity of the levee footprint. However, USACE will be responsible for determining an alternative method for the tile water to reach an appropriate discharge location. If the alternative requires maintenance (i.e. a pump) , the local sponsor would be responsible for future maintenance.
- 6) If the flood waters generated by a storm event exceed the levee capacity then those floodwaters would continue westward to Lye Creek as they do under existing conditions. Localized drainage near the levee will be addressed as part of the levee design and will be directed to an appropriate discharge location without adversely impacting adjacent properties. Farm tile will be allowed in the ER area in those areas that may be able to continue to be farmed after the construction of the BLDC levee.
- 7) An Operation and Maintenance Plan for the proposed project is a requirement of the project implementation and construction. A local agency, conservancy district, or other entity will have to sign a formal agreement and accept the responsibility to commit funds and resources for the continued maintenance of the proposed project structures. As part of the Cooperation Agreement, the non-Federal sponsor agrees to 100% of the Operations and Maintenance of the project. In addition, any constructed project receives an annual inspection which is conducted in concert with the non-Federal sponsor and Corps of Engineers.
- 8) Local drainage swales or ditches that cross the Blanchard to Lye Cutoff (BLDC) footprint will either be diverted around the levee or will be conveyed through the levee using pipes with flap valves that will open once the floodwaters recede. Local drainage features such as Corbin Ditch will not be affected by the BLDC footprint. The level of the levee for the Findlay Reservoir would be much greater than the proposed levee, therefore, overflow into the Reservoir would not be anticipated, in addition to, creating a barrier to prevent any water from the ditch from creating overland flows during flood events.
- 9) It will be the responsibility of both the City and the County to implement future projects and approve development projects that compliment or enhance the function of the proposed project features and alignments. The modeling programs developed for the project will be available to the City and County Engineering Departments to utilize during the assessment of the impacts of proposed future projects and development; and changes in future policy, ordinances, or regulations.
- 10) Any project that is constructed by the Corps is constructed on annual basis according to provisions outlined in the Operation and Maintenance Manual. Any deficiencies are documented and must be repaired in accordance with the O&M

Manual. If a project is not maintained, future federal assistance could be jeopardized.

Questions/Comments: Mr. David Baird

I am concerned about the health and safety of the residents on the east side of the river on TR 244 between addresses "205" and "173" and on TR 202 between addresses "244" and TR 190. Concern is that the levee will divert water from the "creek" to the east side of the "river" and flood "244" and "202" to depths that will restrict access to and from the residences (listed on petition) by the people and emergency vehicles.

Responses:

The property in question is located within the existing 100 year floodplain which would restrict access to and from the residences even if the proposed project was not constructed. Under the current recommended plan there does show that inundation will be occurring in the area in question; however, the full extent of the areas and the depth of inundation are not fully known due to the tentative nature of the selected alternatives. Portions of TR 202 and TR 244 upstream and downstream of this area are also inundated under existing conditions during these storm events so emergency response personnel already have contingency plans for access to the area during large storm events.

Questions/Comments: Mr. Robert Beutler

The non-structural mitigation area bordered by Pheasant Run Pl, Saratoga Dr, Scarlet Oak Dr, and the River contain homes priced from \$250K-\$1.5M. (1) What is amount of the project cost budgeted for purchase or elevation of these homes?

You have likely drastically underestimated this cost. (2) Using only County Auditor appraisal figures, the bulk of the project budget will be used on purchasing these homes, and the local economy will suffer the loss of the property taxes.

(3) What alternatives were considered or excluded? I am puzzled by: there is a lot of vacant land in the county fairgrounds almost directly in the flood path, but nothing has been said about relocation of the fairgrounds and construction in that area to accommodate the Lye Creek problem.

The abandoned Tarbox McCall quarry on the SW side of Findlay may also be a viable option, which together or instead of the fairgrounds could be used for water retention.

Responses:

- 1) The nonstructural component of the project is no longer being considered. With respect to the non-structural mitigation. Each structure must be economically**

justified in order to be considered for implementation. There is not “budget” per se that has been allocated for the non-structural component. The non-structural component is included as a measure which is part of the entire plan. A real estate cost estimate will be developed by a licensed appraiser during the feasibility phase based on the type of estate required.

- 2) Non-structural measures do not always necessitate the purchase of the structure. The minimum real estate interest that is required to construct, operate and maintain the non-structural measure that is selected will be determined on a case by case basis. If only an easement is acquired there would be no loss in property tax base. Real Estate costs are based on fair market value.**
- 3) The Feasibility Study will contain a table with identified measures and the justification for screening out or carrying forward for additional level of analysis and consideration. Some locations for potential project alignments may have been screened out due to location.**

Questions/Comments: Mr. Robert Beutler Jr.

Your agency previously presented a plan for which comments were solicited by virtue of an article in the Courier on 12/11/12. It is my understanding that in lieu of a special meeting with the Findlay City Council to address the issues, Mr. Pniewski will be present to address council as part of its regular business meeting, hardly the degree of attention that a project of this magnitude deserves. Therefore, I am requesting copies of all written comments that you have received since 12/11/12 as soon as possible.

Responses:

Comments received since December 11, 2012 have been provided to the Findlay Courier under a Freedom of Information Act (FOIA) request dated June 2014. Comments received, that are relevant to the Blanchard River Watershed Study, since December 11, 2012 have been addressed in the Public and Agency Comments Section (present section) of the Environmental Appendix.

Questions/Comments: from Ms. Linda Bishop

- 1) Keep the Blanchard cleared of debris and dredged where sand bars occur. If we can't maintain the river now, what guarantee is there that other proposed fixes will be maintained?**
- 2) Diverting more water into the river will cause more flooding in rural areas which is against ORC 3767.13.**

- 3) Fix bridges to allow water to pass quickly, such as the I-9 Bridge in Ottawa by installing culverts under bridge approaches or removing embankments.
- 4) Why is TNC interested in giving Hancock County \$414,765 for the Lye Creek project? There are more questions than answers so the simple fixes should be tried first. Lye Creek is part of the whole flood issue. After all the time and money spent, we have nothing to show, and we'll still have to wait for Congress to allocate money.

Responses:

- 1) **While maintaining the river in terms of removing log jams and fallen trees is an important part of the maintenance of the river for low flow storm events, the flooding that causes the most damage in the Blanchard River watershed is the result of high flow events (generally > 2% chance event), which significantly exceed the capacity of the channel, to the extent where most log jams in the river do not have an impact on whether an area floods or not. An Operation and Maintenance Plan for the proposed project is a requirement of the project implementation and construction. A local agency, conservancy district, or other entity will have to sign a formal agreement and accept the responsibility to commit funds and resources for the continued maintenance of the proposed project structures. Annual inspections are held to ensure the project is being operated and maintained according to project design.**
- 2) **The project proposes flood risk management measures that satisfy USACE requirements that the benefits of the project over the life of the project exceed the costs of the project considering all positive benefits and negative adverse impacts to the properties in the watershed. Therefore the project features are not considered “unlawful” diversions. In addition, all properties adversely impacted by the project and are considered a “taking” in terms of law will receive an offer of mitigation.**
- 3) **The removal of a portion of the northern approach to the existing I-9 bridge near Ottawa is a component of the final array of the recommended plan that is being carried forward for further refinement as part of a separate project being carried forward by the village of Ottawa. This project would be completed using another source of non-federal funding and is no longer part of the Blanchard River Watershed Study. The present project also looked at altering other bridges on the Blanchard River and to evaluate which bridges could be modified and provide long-term flood reduction benefits that would exceed the cost of the necessary modifications. However, none of the bridges along the river in Findlay met this standard for federal investment.**
- 4) **The TNC Lye Creek project is not a part of this project and addresses has other project goals for Lye Creek that are separate from this project.**

Questions/Comments: Black Swamp Area Council, Boy Scouts of America

The following concerns relate to proposed in-line detention dam/structure on Eagle Creek: (1) Reservoir could contaminate Camp's drinking water when water is drained in the reservoir, (2) Reservoir could flood the sewer system at the camp during a flood event, (3) Reservoir would flood several buildings and bridges creating unsafe conditions, (4) Camp is also used by over a dozen other local non-profit and Findlay area entities (listed), and (5) Proposed structure will create flooding for roads and residents south of the proposed structure but will not solve flooding issue. The Council Exec Board and the Berry Boy Scout Reservation, Inc. would support the Eagle Creek Diversion Channel Plan (either one) as the best plan for our 10,000 Scouts and other visitors. However, the Council objects to the proposed retention structure which does not provide a remedy for the problem but merely diverts the flooding and will more significantly impact residents and programs already in the flood path. The retention structure would clearly adversely affect Camp Berry structures, and the Council would intend to seek relief or compensation to rebuild or move those affected structures. This cost exceeds several million dollars when considering the amount of money necessary to provide fair compensation to the Council for the easements or other rights which would affect a significant portion of our camp.

Responses:

- 1. The preliminary maximum inundation area of the inline diversion structure for the West diversion alternative on Eagle Creek includes areas of Camp Berry that are not now currently within the FEMA Zone A (100-year) flood hazard area. There are portions of the camp area that will not be impacted by the proposed inundation area. A Flowage Easement will be obtained with property owners in the inundation area and the camp activities will be considered a compatible use with this easement. The project will consider project related impacts to the Camp Berry infrastructure and structures during the further refinement of design of the project components. Parcel by parcel impacts will be identified during optimization. By law, acquisition will be in accordance with PL 91-646 and just compensation will be paid for any real estate interests that are required to support the construction, operation and maintenance of the project. Just compensation will be determined by a licensed appraiser. With the current Eagle Creek Diversion Structure (which is subject change during the final design phase), it is not expected that any new structures that do not fall within the existing 100 year floodplain will be affected.**
- 2. See (1) above**
- 3. See (1) above**
- 4. See (1) above**
- 5. Many of the roads to the south of the proposed inline diversion structure for the West diversion alternative on Eagle Creek currently cross Eagle Creek and therefore are partially within the current FEMA Zone A (100-year) flood hazard area. While the area of inundation under certain storm events will be expanded in this area by the construction of the project, project related impacts to maintain**

emergency access and to protect individual structures in the area will be considered during the further refinement of the project design.

Questions/Comments: Mr. Richard Flowers

Regarding proposed retention structure on Eagle Creek: (1) Reservoir would affect water quality by inundating the water pollution control station at Camp Berry, (2) Reservoir would allow contaminated animal waste from the U. of Findlay Western Equine Center and Pre-Veterinarian Ed. Labs on CR 40, (3) Farms south along Eagle Creek have history of pork production including whelping structures and manure collection [that could introduce contaminants] to the reservoir, (4) One thru three above would contaminate the approved wells in the reservoir retention area and require new water wells that may require higher standards in water quality, (5) Any structure within the reservoir area would be condemned requiring restitution, such as the in-ground pool at Camp Berry. Dining facilities, homes support structures may require relocation and (6) Reservoir would require changes to roads or bridges over Eagle Creek to allow use for safety forces. Ohio SR 68 is a key route to emergency services. With closing of Ohio 15 at Western Ave in Findlay, TR 45 has become an essential route for fire and ambulance service west of Eagle Creek. Clearly either of the diversion plans is superior in safety and environmental impacts. Also, the Diversion Plan never has the potential for overflowing and surging beyond the actual flow.

Additional comments on proposed Eagle Creek Retention structure: (1) Bishop Cemetery is located along the east side of Eagle Creek between CR 37 and CR 26, (2) Line Cemetery is located on the west side of Eagle Creek between CR 37 and CR 26, and (3) Additional burial sites may be located near older church yards near the intersection of CR 40 and TR 72, or adjacent to older farm structures in the area.

Responses:

- 1. Under the present plan, the wastewater treatment plant for Camp Berry occurs just outside of the 806 contour of the Eagle Creek Diversion Structure Impoundment. If during optimization any issues arise with movement of the flowage in the area appropriate best management practices will be enacted and/or any threats to the wastewater treatment will be mitigated. By law, acquisition will be in accordance with PL 91-646 and just compensation will be paid for any real estate interests that are required to support the construction, operation and maintenance of the project. Just compensation will be determined by a licensed appraiser.**
- 2. Under the present plan, no structures fall within the Eagle Creek Diversion Structure Impoundment on the University of Findlay's Equine Center. Currently, no areas in the easement on the University of Findlay's Western Equine Center will be increased above the existing 100 year floodplain. Therefore, no new inundation should occur over the existing 100 year floodplain.**

3. **The impoundment area for the proposed Eagle Creek diversion structure does not appear to have an impact greater than the existing 1% chance floodplain and would not impact existing agricultural practices.**
4. **Data from the Ohio Department of Natural Resources Website show 15 wells in the area. These wells seem to be personal wells in the area for local residents/wells that belong to the Boy Scout Camp. All of these wells already fall within the 100 year floodplain and therefore no new inundation is expected to occur in the areas. To our knowledge no wells in the area of the Eagle Creek Diversion Structure Impoundment currently go to the Findlay Reservoir for drinking water.**
5. **All of the structures in the area of concern with fall within the already existing 100 year floodplain and is not expected to have any increased inundation associated with the flowage easement.**
6. **As of now, there are no proposed impacts to SR 68 in regards to the flowage easement or any other aspect of the project. County Road 45 does fall within the flowage easement as it is currently proposed; however, it is expected that little more flooding than presently occurs in the area would occur after the diversion structure is constructed. It is important to note that these roads all presently fall within the 100 year floodplain.**

Regarding proposed retention structure on Eagle Creek:

- (1) **Through (5): - The project will consider project related impacts to the infrastructure and structures in the inundation area during the further refinement of design of the project components. It is also important to note that Bishop Cemetery and Line Cemetery do not lie within the inundation area upstream of the diversion structure for the West Diversion Alternative 2 Alignment based upon the preliminary design. It is not anticipated that cemeteries or burial sites will need to be moved or altered as part of the proposed project.**
- (6) **Project related impacts to maintain emergency access during storm events will be considered during the further refinement of the project design.**

Questions/Comments: David and Nancy Grasmick

The West Div Channel makes a 90 degree turn at the south end of our farm, which will ruin our farm and we have some of the best ground in the county.

(1) Is it true that restrictions were placed on the Corps from the very start of this study? If so, is this a common practice when the Corps does a study like this? If there are restrictions, who is responsible for them? Were you allowed to look at dredging as a possible solution? Every meeting I have attended you have stated that dredging needs to happen along with cleaning up the river banks to stop the logjams, especially on bridge supports. Is this going to be part of your

final recommendation? Wouldn't dredging and widening the river remove millions of gallons of water faster, before it reached flood stage? Wouldn't this at least lower the height of the water at the peak of flooding? You have already stated that we can't eliminate the worst flooding, you are trying to reduce the water level...wouldn't this be the best place to start? Were you allowed to consider retaining walls? I'm told other cities use them successfully to keep downtown areas from flooding. Have you been involved with any of these other projects and would it help Findlay? Is aesthetics a reason not to use them in Findlay? Why was the Main Street Bridge allowed to be built 4.5 feet lower than the Corps recommended? Can anything be done to help this? Was this lower bridge height due to aesthetics and who made that decision? Can you figure out how much the lower bridge height contributes to the downtown flooding? Is it substantially along Main Street?

Were restrictions placed on the Corps regarding removing water from Findlay and speeding the flow to Ottawa? Is the flooding of Ottawa with increased Findlay drainage a concern to the Corps? If Ottawa wasn't in the picture would the study be conducted differently? Have you looked west of Ottawa trying to improve drainage to help both towns at the same time? Why was the one diversion channel removed from consideration? Why are you looking at increasing the flow from Lye Creek into the Blanchard since it's east of the Main Street Bridge? Will the new wider width offset the additional water? Won't this just add more water "faster" making it hit the bridge and flow north and south? Don't we need to remove the water at a faster pace west of town instead of east of town? Seems dredging would allow the water to travel west earlier and then faster. Better yet, widen the river along with dredging to improve water flow before it floods. Is it a fact that most of the bridges on the Blanchard are not built high enough? In the last meeting I think I heard that 54 bridges were built too low, is that possible? Are there laws or regulations governing bridge height on new bridges? Does anyone monitor the bridge height?

Responses:

The USACE has a defined process to evaluate and define Flood Risk Management projects and that process has been followed for this project. The Corps of Engineers enters into Feasibility studies open to identifying all options which may provide flood risk reduction and environmental benefits. As part of the planning process, constraints are identified which may impact the development of plans. When considering a channelization or diversion project, the Corps must consider the downstream damages. If damages are going to be induced, efforts will be taken to compensate and mitigate for the induced damages.

A range of project alternatives are evaluated during this process however maintenance activities such as dredging and clearing debris are the responsibility of local entities and property owners and those activities are regulated by and must conform with environmental permit requirements before they can be implemented.

Widening of the river, bridge modifications, bermed storage areas, retaining walls and floodwalls were all considered and evaluated at various locations during the development of the current projects alternatives. However, in evaluating the economic benefits associated with the project, it was documented these measures were not considered to be cost effective; meaning that a positive benefit to cost ratio was not realized during the Corps economic evaluation of the identified measures and were screened from further evaluation.

The proposed project alternatives were evaluated individually for their benefits and impacts to both Findlay and Ottawa separately before they were combined into a final array of projects being carried forward for further refinement.

Questions/Comments: Ms Carroll Lanning

I think the Corps' plans will be a total waste of money. Referring that if they did the total \$150 million and only drop 1-3 feet of floodwater in a 100-year flood would be a waste of money. The best bang for the buck would be to eliminate or move or raise buildings also the embankment idea around buildings is also good in the flood prone area [emphasis on original]. The 90-degree curve in the Blanchard at SR 568 around TR 215 area should be changed from the sharp bend to a gradual bend. Water does not like sharp turns. Making it gradual should be cheaper than building these water runoffs that will likely not work. Since Findlay is relatively flat, it does not make sense to me to build all these extra waterways that will cost so much but do little in return.

Responses:

Non-structural measures are a component of any flood risk management plan and the Corps needs to carry a non-structural measure to the final array of plans. However, after implementation of the structural plan, a nonstructural plan for the Blanchard Watershed was not carried forward. Nonstructural measures may be considered for those that are impacted by induced damages. Evaluation of structures for induced damages will be performed prior to completion of the Final Feasibility Study. In addition, both the village of Ottawa and city of Findlay have been pro-active in implementing nonstructural measures within their respective communities.

Questions/Comments: Ms. Patricia Ricketts

Our neighborhood has been selected to be in the Induced Flooding Area, which is located between E. Sandusky St. and E. Main Cross St., namely the Thompson Addition in Findlay, OH. According to the recent map in The Courier, there were also two proposed retention ponds located within our subdivision. I am at a loss to figure out how the Army COE came up with our neighborhood for this option. We have a well-maintained neighborhood which has never flooded, and we are on the high side of the river across from the Country Club Golf Course. Our

neighborhood is connected directly to Blanchard Valley School on the east, and there is an electrical substation directly to the west of our subdivision. This just isn't logical. Marcelle Avenue, Chase Road and Rilla Road have never flooded. There is plenty of low ground where the City has purchased land and removed the homes that can be used for retention ponds and become a flood-induced area. Why destroy a well-manicured neighborhood that doesn't flood? Since we received a couple inches of rain this past weekend, we had a flood warning. Why do you think that happened? The most logical answer would be that the river is too shallow. It is full of silt, dead trees and junk. There are places in the river that aren't even one foot deep. There are newly-formed islands that never existed before these past three or four years, not counting the various sand bars throughout the river. If we widened our river in Findlay and dredged it out to it's proper depth and added more depth in certain areas, we may only need retention ponds in the low-lying areas at the east and west edges of Findlay, where it floods all of the time. I find it hard to believe that if we dredged the river, we would only displace the water by one-half inch, as mentioned at one of the Flood Mitigation Meetings. That doesn't make sense, nor does it make sense that we should dig canals seven to nine miles outside of Findlay to solve this problem within the City, thereby destroying valuable farm lands. I think we should worry less about aesthetics and more about saving peoples' homes and neighborhoods. There are a lot of cities with concrete walls used alongside their rivers and creeks. It would seem we could solve this flooding problem with solutions that are much more affordable and make a lot more sense than a \$150 million plan. It will end up costing us three times that amount by the time it comes to fruition. It would seem that dredging, if done on a regular basis, would be much more effective and affordable.

Responses:

The Hydrologic and Hydraulic model was verified by the Corps of Engineers during the normal refinement of the model, some of areas that were previously identified as to receive induced flooding in December 2012 are no longer identified to receive induced flooding at this time. Please note, there are many factors which may still contribute to flooding events not related to overbank flooding.

It is important to note that the referenced neighborhood was not specifically selected by the USACE to be an area to have induced flooding. Induced flooding occurs in the area from the project because increased flood protection was cost prohibitive when compared to benefits of those improvements. Further efforts to reduce the area of induced flooding will be considered as a part of optimization of the final array of projects being carried forward for further refinement. Under the current proposed project there is no planned induced flooding with the area between E. Sandusky St. and E. Main Cross St. in Findlay, OH.

Dredging is not considered an effective flood risk management measure as shoaling occurs relatively quickly after the first dredging event and the cost of initial dredging and constant maintenance is in excess of the benefit this measure would provide. Nevertheless,

maintenance activities such as the dredging of sediment and the clearing debris out of streams and rivers are the responsibility of local entities and property owners. Those activities are regulated by and must conform with environmental permit requirements before they can be implemented. Funding for dredging of rivers in inland areas such as Hancock County is also the responsibility of the local entities and property owners that might undertake the dredging.

Widening of the river was considered and evaluated at various locations during the development of the current projects alternatives but was found to have a lesser benefit/cost ratio than the project alternatives being carried forward for further refinement. As of now there are currently no plans on placing retention ponds within downtown Findlay in any of the alternatives or mitigation areas.

Questions/Comments: from Sondra Bixby

If you can't make the river wider, make it deeper. I've been asking the local engineers for 20 years to at least explore this possibility. They tell me it has a rock bottom. That may be true but it has several feet of sludge on top of the rock bottom. Can't it be dredged and the sludge used to make the banks higher?

Responses:

The Corps of Engineers is looking at the various options which will provide the greatest conveyance of water. Maintenance activities such as the dredging of sediment and the clearing debris out of streams and rivers are the responsibility of local entities and property owners. Those activities are regulated by and must conform with environmental permit requirements before they can be implemented. Funding for dredging of rivers in inland areas is also the responsibility of the local entities and property owners that might undertake the dredging. Dredging is not always an effective solution to flooding and often times when dredging occurs, sedimentation reoccurs in the waterbody. When excavation projects involve bed-rock, costs are extremely expensive. The geologic make-up of the land surrounding Findlay and Ottawa has a lot of bedrock and the costs associated with creating a deeper channel are cost prohibitive. In addition, for any ground that is dug, the excavated material needs to properly disposed of and that often adds costs to the overall project. For the Blanchard River, the cost of initial dredging and constant maintenance is in excess of the benefit this measure would provide. Widening of the river was considered and evaluated at various locations during the development of the current projects alternatives but was found to have a benefit/cost ratio less than 1.0, which is lower than the project alternatives being carried forward for further refinement.

Questions/Comments: from Robert Sprague

- 1) My first concern is with the two potential Western diversion channels. This area naturally drains without flooding, so to introduce flooding in any way to these lands through this project is irresponsible. Any diversion water must be contained within the diversion channel, and to ensure that all water stays within the channel, it must be designed with a substantial safety factor. Under no circumstances should there be artificially induced retention areas as was initially discussed to accompany the diversion channel. Furthermore, I believe that the project sponsors, and perhaps the State, should consider indemnifying constituents from overflow from the diversion channel, to eliminate that economic risk that was not present before the channel was constructed. This is fair, because these landowners did not purchase the land with the overflow risk before the channel, the channel should have been designed by the project sponsors with a safety factor preventing overflow, and the landowner will not receive direct compensation before a damage event for this risk added after purchase.
- 2) Regarding the choice of a path for the diversion channel, common sense should prevail on the ecological impact on the small organisms in the existing Aurand Run ditch. This ecosystem developed due to water pumped from a quarry into Aurand Run. The current ecosystem developed only after man-made water was added to Aurand Run, therefore this ecosystem will re-develop after construction is completed, in the same place. To make a decision costing tens of millions of dollars to the taxpayers in order to avoid disturbing naturally regenerative, minute organisms which are only there because of man-made induction is the height of federal over-reach and lack of common sense in regulations. The common good of man and our communities should not be subjugated below the health of a few small, naturally occurring organisms or animals, which will regenerate in the same place after a short time
- 3) If conservation practices are funded from another source, or are cost neutral as part of the project, it makes sense to include them. However, flood mitigation funding should be spent to reduce flooding, not implement additional conservation measures, unless approved by their funding sources, whether they are local sponsors, the State, or the Federal Government. Finally, if the selected diversion channel creates additional wetlands, reduces phosphorous discharge from that area, etc. these ecological gains should be credited to the project. Other factors that should be taken into account when determining a channel path are to minimize the marginal impact of the channel on current landowners.
- 4) Decisions on precise locations of the channel should be made to minimize or eliminate operational impacts on family farms, homes, government buildings, or businesses in the area. Any reduction in value to the residual parcels of land which the channel cuts through should be minimized. The channel should follow existing natural boundaries, lot lines, streams, and ditches to minimize the impact of any new terrain feature. Furthermore, serious consideration should be given to using existing infrastructure as much as possible, leveraging the investments already made by our local taxpayers.

When purchasing the land, the landowner should be fully compensated not just for the fair market value of the land purchased, but also for any reduction in value due to the new structures. The landowner should be compensated for reductions in residual parcel values, additional operational costs, or other losses as a result of the new channel. These landowner costs are just as real as the construction costs of the project.

My second concern is the increased water levels in areas east of Lye Creek. This flood mitigation project was not undertaken to reduce flooding for some people only to have other persons in a different location now bear the fury of Mother Nature. What is the justification for the government to willfully flood their properties during an event, without their consent or fair remuneration? Again, these landowners have purchased the property with either a lesser flooding risk, or no flooding risk, and to raise the level of water for these property owners who may have increased damage as a result of deeper water is unfair and intolerable. The government should not be allowed to reduce flooding in one location, only to induce it elsewhere. This is effectively a transfer of wealth from one set of landowners to the other, in the form of water depth and subsequently, future economic damages. If deeper water is unavoidable in some areas, the homeowners should be indemnified by the project sponsors as to the increased future economic damages, and again made economically whole. This project was funded with taxpayers dollars to lower the water levels for everyone during a flood event, not to increase the hurt to some neighborhoods or structures with increased flooding.

Responses:

In planning Corps of Engineers projects, it is not the intent to induce flooding. If in fact there is induced flooding, any individuals who are impacted by induced flooding will be compensated. All attempts were made to reduce the amount of structures which would be impacted by induced flooding. The Corps will attempt to minimize the impacts to property as much as possible during the optimization phase and at the later design phase.

The west diversion alternative will be designed to contain the stormwater runoff generated by the 100 year storm event with an additional freeboard above that flow (i.e. safety factor) in conformance with USACE design standards. The “artificially induced retention areas” along the West Diversion channel are no longer a portion of the final array of projects being carried forward for further refinement. The further refinement of the channel design will include an evaluation of an alignment that: a) minimizes or eliminates impacts on family farms, homes, government buildings, or businesses in the area; b) follows existing natural boundaries, lot lines, streams, and ditches to minimize the impact of any new terrain feature, and c) considers existing infrastructure.

As mentioned in the above narrative, the pumping at the quarry has resulted in an increase in the stream quality of Aurand Run, which is now considered to be the normal condition of the water body. Any negative changes to this water body would be considered as impacts and would have to include mitigation. The Aurand Run alternative would include

the placement of fill material within the existing stream channel. According to guidance set forth in the 40 CFR Part 230.10, Subpart B of the Clean Water Act Section 404(b)(1) Guidelines, "no discharged of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. The Aurand Run Alignment would permanently impact approximately 35,157 linear feet of stream and at least 106 acres of wetland. Analysis of Alignment 2 indicates that it would be equally effective hydraulically as the Aurand Run Alignment, be less expensive to construct, and would require impacts to approximately 11 acres of wetland and a total of 5,507 linear feet of stream. Therefore, the Aurand Run Alignment is not compliant with the Clean Water Act as it would not constitute the Least Damaging Practicable Alternative (LEDPA). Furthermore, the USFWS objects to the implementation of the Aurand Run Alignment, as this measure would effectively convert sections of Aurand Run "from a Warmwater Habitat stream to a flood control channel", and that the implementation of the Aurand Run alignment "would drastically alter aquatic habitat in Aurand Run and result in severe impacts to aquatic biota". The Alternative 2 Alignment is in compliance with these guidelines and recommendations, with the inclusion of appropriate and practical conditions to minimize adverse impacts wherever possible and comply with applicable and appropriate regulatory requirements (e.g., compensatory mitigation).

Initial cost estimates during screening indicated the Aurand Run plan would include 2.5 million for lands and damages and 9.25 million for fish and wildlife facilities, which would contribute to a total cost of approximately 90.5 million. On the other hand, the Alignment 2 Alternative would include lands and damages costs of approximately 3.06 million and fish and wildlife facilities costs of 0.97 million, with a total costs of 83.9 million dollars. The cost of the Alignment 2 Alternative is therefore less than the cost for the Aurand Run alternative, mostly due to the increased cost for mitigation under the fish and wildlife activities costs. This relationship where the ARA would be most costly than the Alternative 2 Alignment is not anticipated to change as a result of further cost refinements.

Any ecological gains deemed appropriate by the state and Federal natural resource agencies will be included as mitigation. In addition, the Alternative 2 Alignment was found to be in full compliance with the Farmland Protection Policy Act in minimizing Federal program impact on the unnecessary and irreversible conversion of farmland to nonagricultural uses.

Environmental Restoration is in the project authorization for the Blanchard River watershed. As part of the planning, environmental measures must be considered and the costs are part of the implementation costs. Environmental Restoration will only be implemented if it found to be environmentally justified and cost effective. Mitigation

features will also be included as part of the planning process if any alternative considered will negatively impact the environment. Conservation measures which may also be considered as environmental restoration measures.

Questions/Comments: from Mr. Bruce Dye

The idea of a 9-mile trench west of Findlay at some outlandish cost, that would be maintained by an unnamed party, is ludicrous. It is nothing more than a violation of property rights of the current land owners and a thinly-veiled land grab for that unnamed party, that from sound of it, has significant financial resources.

What needs to be done to improve high water flow is maintain the stream beds by strategic dredging, removal of dead tree debris to prevent log jams, and one by one, by correcting the earthen-dam effect of all those bridges! Now the Blanchard study can be checked off as one of the units listed in the Scioto River / Big Darby Creek project.

Responses:

With all Corps of Engineers constructed projects, an Operation and Maintenance Manual needs to be prepared and provided to the non-Federal sponsor. This document will outline the steps required to operation and maintain the constructed project. Private property owners can assist with the maintenance of any waterbody through removing any easily removable debris from the waterway. Property owners are compensated for any property which is required for any project. Compensation depends on the type of acquisition used, which will be further defined as the project continues.

Questions/Comments: From Sue and Jack Cupples

Will the option cut along the glacial groove west of Liberty Twp Rd 130 require the removal of our house and barn? When considering which option to pursue, are both diversion channels (Aurand Run or the one cut along the glacial groove west of Liberty Twp Rd 130) be implemented or just one?

Responses:

Parcel by parcel impacts will be identified during optimization. With respect to your property, efforts will be made to avoid homes and other critical property with the alignment of the diversion channel. Nevertheless, there is a chance that impacts (either through induced flooding or the implementation of a specific measure) can occur to the property in question. However, the precise locations of the flood risk management measures associated with this project and the extent of their effects can still change slightly as the Feasibility Study is completed and will not be finalized until the final Design Phase. While both diversion channels are addressed as alternatives there will be only one channel

chosen in the final project plan (The Aurand Run Alternative was screened out as a viable alternative).

Questions/Comments: From Nancy Fortman

Why should people who already were in a flood plain get relief while potentially making our home in a flood plain. I ask that you take that into account when you are making decisions that could potentially ruin our dream home and cost us additional money.

Responses:

The project proposes flood risk management measures that satisfy USACE requirements that the benefits of the project over the life of the project exceed the costs of the project considering all positive benefits and negative adverse impacts to the properties in the watershed. While efforts are made to reduce the negative impacts to the greatest extent practicable, all properties adversely impacted by the project and are considered a “taking” in terms of law will receive an offer of mitigation.

Questions/Comments: from Carol Roberts

Our house is probably ½ mile west of the river. You are talking about an earthen levee, how wide is this going to be? Does this include our home? (They live on TR 240 between CR 205 & TR 173).

If there is any ground left, what are you going to do about the field tile/cut them off? Our land drains to the river. And how is the ground that is left, going to drain after a flood?

We own ground on both sides of the river north of CR 205. How far east of the river are you going? Our farm ground east of the river drains into the river. Are you going to cut off our drainage and our livelihood? Are CR 205 and TR 173 going to be cut off at the levee from the west? What are the people on the east side going to do about flooding that they have never had before? What are they going to do in case of an emergency or fire with no place to go?

Why do we have to pay such a big price to save Findlay?

Responses:

The plans call for an earthen levee to be placed in the vicinity of the property in question that is planned to be 10 feet wide at the top with either a side slope of 3:1 or 2.5:1 which would mean either 70 feet wide or 60 feet wide respectively. However, these dimensions are subject to change during the finalization during the design phase. There is a chance that impacts (either through induced flooding or the implementation of a specific measure) can occur to the property in question. However, the precise locations of the flood risk management measures associated with this project and the extent of their effects are still being determined will not be finalized until the final Design Phase. While the levee is

planned to go to the east of the river, the precise locations of the levee will not be known until the final Design Phase. Under Corps directives there can be no drainage under a levee once it is built even if it was there previously; however, there are no intentions of reducing drainage to any farmlands. Any areas where drain tiles will be removed, mitigation for that drainage will be conducted. While the specific locations and specifications of the Feasibility Study will not be finalized until the final Design Phase there is no plan to cut off the roads in the area of the levee

Questions/Comments: from Steven Kramer

The proposed western diversion channel for the Blanchard River project appears to go through nearly 2 miles of land that I farm. If the channel is 120 feet wide that would equate to some 29 acres of my farm removed from production. At 150 feet wide it would be 36 acres. The 29 acres represents 3.9% of my total farming operation. Of the 29 acres, I own 3.6 acres and would be compensated by means of the purchase of the 3.6 acres. Of course the compensation would be reduced by the 20% capital gains tax. The remaining 5.4 acres are rented and the landlords would be compensated but as a tenant farmer I would receive nothing. In essence I would be asked to reduce my yearly income by some 3.9%. Every year. Now and forever more. I consider that to be a very large sacrifice and I wonder how many Findlay residents affected by the flooding would be willing to make an equal contribution. And despite this contribution Findlay will still flood and with the proper rain it will flood just as badly as in the past. I am being asked to make a huge contribution that will not stop flooding in Findlay. Each time Findlay floods I have flooding on my fields. Each time I have a loss of crops and a loss in forced to cure their flooding problems. At great cost and for little results.

Responses:

While the diversion channel is planned in the vicinity of your property the precise locations and specifications of the flood risk management measures associated with this project and the extent of their effects as still being determined as the Feasibility Study continues and will not be finalized until the final Design Phase prior to construction. Therefore, the exact impact to the land you farm cannot be addressed at this time.

Questions/Comments: from Stan Scarbrough

This letter is in response to your briefing at Findlay High School. I am specifically speaking about the two proposed plans for the Western Diversion. The first plan I will call "Aurand Run". With the Aurand Run plan, it appears that a dam will be placed approximately one half mile north of my house that would be used to divert flood waters to an existing channel called Aurand Run. With this plan I am concerned that the dam will raise the water level along Eagle Creek immediately south of the dam, specifically my home. My yard is approximately 4-5 feet above the normal levels of Eagle Creek. So if the dam raises the level of Eagle Creek more than 4-5

feet, my yard would be flooded all of the time. There have been some people who have told me that this dam would not raise the water table behind the dam, but I have not heard this officially. If there is not a retention area behind the dam and the water table is not raised, then I have no problem with this plan. With the other plan, I will call the "Western Diversion". It is my understanding with the Western Diversion plan a new channel 100 feet wide and 40 feet deep would be dug along a natural ridge for 9.3 miles long to the Blanchard River. It is my understanding that this would involve putting a much taller dam and retention pond just north of my house. The dam would be much larger in my understanding because the Western Diversion route does not have enough fall for the water to travel to the Blanchard River. It appears to me that with this plan I would be flooded out along with my section of County Road 45 and the eastern part of the Boy Scout Camp. I also believe that the UF Equestrian Farm and other homes along Eagle Creek up stream will also be affected. In the 2007 flood I had one inch of water in my house. One mile upstream from me is the Hemminger homestead (directly west of the UF Equestrian Farm). During the 2007 flood the water was one inch below the floor of his house. So I believe this plan would raise the water table at least one inch to flood his home. In addition the idea of cutting a 100 foot channel through every farm along the 9.3 mile route is a crazy idea. How is a farmer going to cross the channel? I have lived at this location for 28 years. We bought this place 28 years ago with full knowledge that the yard would flood during the spring. I do not think it is fair that my home of 28 years as well as the Boy Scout Camp, UF Equestrian Farm, and the Hemminger Homestead be flooded out so that those who built deliberately in the flood plain be preserved. I have not seen how any residents in Findlay affected by the flooding are asked to sacrifice like I appear to be. They don't appear to be asked to do anything. It is OK to flood out my residence, The Boy Scout Camp, the UF Equestrian Farm, Eagle

Creek residents upstream, and gouge a trench through many farms in western Hancock County at a cost of \$150,000,000 plus to prevent a once in one hundred year flood that caused one hundred million dollars damage in 2007. Don't do this plan (Western Diversion). It is better to do nothing than to disrupt the western farms and residents along Eagle Creek.

Responses:

The current plan has been modified and does not have the Aurand Run measure; therefore, the Aurand Run diversion structure is no longer an option that is being considered. The diversion structure planned on Eagle Creek is much smaller than originally planned. Currently, the areas that will be inundated by the structure are approximately equal to the areas flooded by the existing 100 year floodplain.

Questions/Comments: from Philip Morehart

Has the subsurface drainage systems been part of the study, and do you know how this is going to affect people's homes in the country? This tile I am referring to, I am told, ultimately drains into Eagle Creek, before the proposed dam. I know it has been said it is a concern not to just

push the water west, but aren't you blocking the water to us folks to the South? I am concerned that this will slow my drainage and increase the water level (perhaps substantially). Could you please let me know if this is or is not true, and why or why not?

Responses:

Currently, the inundation area along Eagle Creek south of Camp Berry is approximately equal to the areas flooded by the existing 100 year floodplain. Therefore, no adverse impacts to agricultural areas south of Camp Berry are anticipated.

Questions/Comments: from Joe and Joey Brown

Why not run the Blanchard River east to the Sandusky river n by passing Findlay all together.

Responses:

The cost of a system to pump flood flows to the Sandusky River would significantly exceed the total benefits anticipated as a result of a flood risk management project.

Questions/Comments: from Gary and Janis Wittenmyer

The proposal of putting a levee west of the Blanchard River on the eastside of Findlay to stop water from overflowing into the Kring ditch to Lye creek will cause higher water elevations east of the river according to your people. It was stated that in 2007, one-third of the water were being released over township road 240 to the Kring ditch. So if there is a levee installed west of the river, 1000 acres of crops and countless number of houses are at risk of major flood damage. You seem to know the flood levels would be 2.5 inches higher several miles downstream in Findlay's subdivisions but are unable tell us how much higher the water will be in our area (southeast of the reservoir). A question which has been asked multiple times but ignored is "Why not improve the channel flow?" Basically, it is not political correct to say "clean the river". Why not use the channels that we have? Use a 2 stage river system to keep the water within its channel. Keeping the water in its channel is the most environmentally friendly choice. We need a permanent maintenance program on the river now like there are for the ditches. Removing logjams which some are 10-12 feet high and other obstructions to open the river up so it can do its job. It is long overdue. I can tell you that if you put a levee in the area that is being proposed without a major channel improvement it will be devastating to many farms and houses in the very flat topography of the land to the east of the river.

What are the financial loss in the rural of Hancock County from the 2007 flood or was one ever done?

Responses:

It was determined the construction of levees was not an economically justified alternative and was screened from further consideration. Under the current tentatively selected plan there does show that inundation will be occurring in the area in question; however, the full extent of the areas and the depth of inundation are not fully known due to the tentative nature of the selected alternatives. Most of the areas that will have inundation in the area are already within the 100 year floodplain. A detailed agricultural analysis will be conducted during optimization and scaling to quantify existing damages and the expected annual benefits associated with agricultural crop flooding. This will be provided in the Final Detailed Project Report. As mentioned in previous comments, dredging and widening the river was considered but was not carried forward as the cost to implement this measure exceed the benefits provided.

Questions/Comments: from Kathy Goecke

With the Federal debt of every American household at \$136,000 and growing, can we please follow the Corps alternatives to improve existing water ways by straightening, clearing the river of debris, improving the restriction of flow through the Norfolk-Southern Bridge in Findlay, reducing the 1-9 Bridge blockage in Ottawa, adding the Lye Creek levee, and adding detention storage areas, before taking the more extreme and costly alternative of re-routing rivers through farm and rural housing areas? Eagle Creek is estimated to contribute to only 25% or less of the 100 year flood flow. This diversion channel would not prevent flooding, but would reduce it (and send water to Ottawa faster). There is also an extreme cost of buying the land/homes, constructing the spillway, compensating for loss in property values, liability of causing more problems, going through several oil and gas wells, bedrock removal, crossing 1-75, the railroad, and the pipeline with this proposed West Diversion Channel. This channel would also cut off many existing roads and access to emergency help with no proposed bridges.

The Corps talks of slowing the flow into Findlay. Slowing the flow means slower drainage of farm ground that would result in additional crop and rural community home damage. Rather than slowing or diverting the flow, improve the flow of existing downstream water ways. Ohio revised Code 3767.13 C "No person shall unlawfully obstruct or impede the passage of a navigable river, harbor, or collection of water, or corrupt or render unwholesome or impure, a watercourse, stream, or water, or unlawfully divert such watercourse from its natural course or state to the injury or prejudice of others"

Responses:

The Corps of Engineers understands the concern with slowing water flows during high water events. Slowing the water, through the use of detention dams, has been screened out during the planning process, as the cost of these measures would exceed the benefits of implementation, generally due to the large amount of land required for retention due to the flat topography of the watershed, and is no longer part of the recommended plan.

Questions/Comments: from Mr. Rex Miller Jr.

This letter is to express my total opposition to any further allocation of funds, both federal and local, for all studies and testing related to redirection of Blanchard River water. I also oppose any funding to construct dikes, levees and flow channels. The natural flow channel of the river must FIRST be cleaned, from the mouth of the river to the

origin of the river, before any further attempt is made to redirect the natural flow path of the water. My opinion is based on the following: 1) There have been no FACTUAL answers given to questions related to the effects of flooding, if the river were cleaned and widened to its original flow path from mouth to origin. 2) Current studies and plans to add dikes and flow channels to divert flood water around Findlay, will only push the water to flood other areas east of the river at CR 205. This plan will also cause flood water to rise and flow even faster for the communities and landowners west of Findlay. 3) The excuse is always used by officials that cleaning and widening the river is not possible due to EPA regulations or endangered species. It is high time to quit making excuses and fight for human rights! The EPA bureaucracy must be challenged! 4) If item 3 is true, how are we to maintain new diversion channels? Do we continue to dig new channels every time one needs to be cleaned? 5) At some point, it must be acknowledged that development in floodplains MUST STOP! Flood water will continue to follow the path of least resistance, regardless of how man thinks it should flow!

Responses:

Channel improvements through widening and deepening channels within the project area were considered but screened out due to the low benefit to cost ratio associated with the implementation of this potential measure. The flat slopes exhibited in the project area would necessitate the need for increasing channel flow capacities over many miles, which would be costly. Bedrock would have to be excavated in many areas, which would also drive up costs well above what would be seen in flood reduction benefits. There are also endangered species within the watershed that would be affected and environmental statutes would necessitate mitigation for impacts to these species. This would also add to the overall costs of the project.

Clearing and snagging was another potential measure that was assessed during the present study. This measure was determined to provide a small decrease in flooding levels through Ottawa for lower-magnitude events such as the 50% chance (2 year) event. This measure would require continued maintenance for only a minor reduction in damages. Putnam and Hancock Counties have obtained grants to allow for the clearing of the Blanchard River and its tributaries.

The diversion channel is a flood risk management channel that will be maintained (cleaned/snagged and dredged) as appropriate for use during flooding events. This is a nine mile stretch compared to approximately 82 linear miles of the Blanchard River that

occurs between the headwater areas to Ottawa. This maintenance would eliminate the possibility of establishment of endangered species or critical habitat.

The recommended plan shows that inundation will be occurring in the area in question; however, the full extent of the areas and the depth of inundation are not fully known due to the tentative nature of the selected alternatives. Most of the areas that will have inundation in the area are already within the 100 year floodplain.

Questions/Comments: from Tom Miller

A year or two ago, I sat in a presentation by an Insurance representative. He said the 2007 flood was a \$100,000,000 event. Given this information, it simply does not make sense to spend the kind of money planned, especially when it won't be a cure to the problem. Even more so when you consider many flood houses have been torn down and others improved to withstand floods. When I bought properties in the flood zone, I expected they would flood. The price was cheap, so I bought them. When they flooded, I rebuilt them in a manner lessening the damage in future floods. Marathon and the Library have done the same as me. They have lifted the mechanicals such as heating and electric to levels immune from flooding. For this very reason, another 2007 flood will not be nearly as costly again. What's worse is shifting the problem to properties which never had flooding issues before. These landowners paid a premium price for prime land and now the government wants to flood them out so the people who paid for cheap land won't have as much flooding. It just seems ridiculous!

Responses:

A thorough economic analysis is conducted during the feasibility study to estimate the benefits and costs for each proposed alternative. Benefits must be higher than costs for there to be a Federal interest in implementing an alternative. USACE guidance and regulations for flood risk management benefit-cost analysis can be found in the following document: Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. Homes that were purchased via state, county, and city grants have been removed from the analysis - We are not claiming inundation reduction benefits for these structures as they no longer exist.

Questions/Comments: from Mike Bennett

A study should be made by Parcel Number of those properties inundated in the last major flood. The cost of buying these up at appraised valuation based on Hancock County Auditor valuation should be compared against the cost (and Probability of success) of the public works proposed. Findlay does not have much elevation with which to work, therefore removal of 3 dead ash trees and a decomposed turkey carcass will not be the answer to the maiden's prayer. As to dollar valuation, the county auditor's valuations should be used, they are really quite munificent.

Responses:

A real estate cost estimate based on a general alignment is part of the calculation of ensuring the recommended plan has a positive benefit cost ratio. During optimization a further refinement of the real estate cost estimate will occur based on actual parcel by parcel information and be performed by a licensed appraiser. The real estate that will be acquired will be the minimum estate required to support the construction, operation and maintenance of the project.

Questions/Comments: from Ruth Hostler

My husband and I have lived in this house which is one street east of East Main Cross St. where it has been suggested that some type of mitigation pool be located, for 26 years. Never have we been flooded and in 2007 even the East Main Cross homes north of us along the river only had water up to half way up their driveways. Hunters Creek subdivision was flooded for other reasons and not because of the Blanchard River. I will explain if you need to know why. I have read a book about the 1913 flood in Tiffin, Ohio, our neighbor east of us and the first thing they did was re-build the railroad bridge which is one suggestion for Findlay. Let's do that first and soon. The big picture looks expensive and encroaching on many people and should not be necessary. People in charge have panicked and been pressured to a certain degree. Please let me know if you receive this e-mail.

Responses:

The present study screened out the use of mitigation pools. Due to the flat topography in the watershed, a large amount of land and structures would be required to retain sufficient water to reduce flood risk, resulting in the costs exceeding the benefits. See the screening of potential measures section of the Feasibility Report.

Questions/Comments: from Gene and Mary Ann LaRoche

In 1962 we bought our first piece of land and have added to it over the years to save for the nursing home or legacy for our children. In the meantime Findlay kept building in the flood plain and filling up the natural ponds along the Blanchard River. I don't think I am responsible for the mistakes of the leaders of Findlay. Please don't ruin our farm with a 100 foot ditch running through it. We paid for the cleanup of Aurand Run since 1996 and have never seen anything done through this farm. Who is going to take care of a 100 foot ditch through our farm? They can't clean up the log jams in Eagle Creek or the Blanchard River now.

Responses:

Aurand Run is no longer considered a viable measure and has been screened out from consideration. With respect to any project implemented by the Corps of Engineers, the non-federal sponsor is required to operate and maintain any project. In order to ensure

that this is accomplished, annual inspections are performed by the non-federal sponsor and Corps. Any areas where there are deficiencies are documented and the non-federal sponsor must repair within a designated window. Failure to provide Operations and Maintenance may jeopardize future funding from the Corps in the event of an emergency.

Questions/Comments: Liberty Township Trustees

After careful consideration of your flood mitigation plans for the Blanchard River near Findlay, Ohio we would urge you to consider all of the options presented such as the reconstruction of the Norfolk and Southern Railway bridge in Findlay, removing or elevating structures in the Hood zone, and preventing the overflow of the Blanchard into Lye Creek before you consider the relocation of Eagle Creek through Liberty Township. If, however, in your final analysis you determine that it is necessary to divert Eagle Creek through Liberty Township we strongly urge you to stay with the plan that follows Aurand Run. That plan, in our opinion, is far superior to the alternate plan because it follows an existing watercourse making land acquisition cheaper since the property is already in the flood plain and one mile or more is already owned by public entities, the cost of constructing new bridges will be lower since existing structures will just have to be lengthened and fewer bridges will be necessary, property owners that currently have no flood issues would not be unduly penalized, as they would be by the alternate plan, existing drainage systems would not be adversely affected, and first and foremost, in our minds, the citizens of Liberty Township would not be put in jeopardy due to slower response times from emergency forces caused by road closings and crossing alterations involved in the alternative plan. We will vigorously oppose any road closings or road crossings that do not include a bridge that spans the entire channel.

Responses:

Aurand Run is no longer considered a viable measure and has been screened out from consideration due to cost and environmental concerns. With respect to any project implemented by the Corps of Engineers, the non-federal sponsor is required to operate and maintain any project. In order to ensure that this is accomplished, annual inspections are performed by the non-federal sponsor and Corps. The non-federal sponsor must repair areas where deficiencies are documented within designated windows. Failure to provide Operations and Maintenance may jeopardize future funding from the Corps in the event of an emergency.

With respect to the roadways that will be impacted by the diversion channel, full bank to bank bridges have been located at eight crossings over the diversion channel, which will allow traffic to cross the channel during flood events. These locations were chosen as a result of traffic counts provided by Hancock County. The locations of the bridges are such that most properties along the diversion channel are within one mile of a bridge. The remaining crossings can either be terminated at the diversion channel as cul-de-sacs or as a

low crossings, which would allow traffic to pass when the channel is dry, but would be closed during flood events. Determination of the nature of these bridge crossings would be performed prior to the Final Feasibility Study. The current locations of the bridges are such that it is not anticipated the diversion channel would have an adverse impact on public safety.

Questions/Comments: from John K., John J., Samantha, and Hailey Maguire as well as Anne Shiple

While we appreciate the efforts taken by the United States Army Corps of Engineers (Corps) and local government to address Blanchard River flooding issues, we are extremely concerned that Scarlet Oak Drive is being considered as part of a "nonstructural mitigation area" and that our area could be subject to "induced flooding" and "induced damages". Designing a system that will purposely cause residential property that has not flooded in the past to become flooded to benefit properties that regularly flood is not a legitimate or responsible solution and is much worse than making no changes. Furthermore, there are other alternatives available to address the flooding issues that would not cause flooding to the properties on Scarlet Oak Drive. Accordingly, we oppose any measure that will subject our property and the property of others to an increased risk of flooding and damages.

By way of background, we were fortunate during the August 2007 flood that there was no damage to our home. The storm sewers servicing Scarlet Oak Drive in the vicinity of our home did overflow, causing a portion of Scarlet Oak and Heatherwood Drives to become flooded such that portions of both streets became impassable, except for very high clearance vehicles and even then these were driving through water that reached the top of the front bumpers. The floodwaters came over our sidewalks in the cul de sac of Scarlet Oak Drive and were proceeding up the drive way. Additionally, Rush Creek, which is in back of our property, greatly overflowed its banks and was almost level with our backyard. Fortunately, the flood waters crested before reaching the house. Our sump pump ran continuously and the crawl space flooded, but the water did not come into the house. However, the flood waters filed some of our neighbors' basements on Scarlet Oak and neighboring streets destroying furnaces, furniture, washers, dryers and other appliances and personal belongings. In one of the other post-2007 Findlay flood events, there was some street flooding on Scarlet Oak Drive because of storm sewers overflowing, but this did not exceed a few inches and was passable by vehicles. In the 2007 flood and in other flood events, there is quite a bit of water retention in our general area as evidenced by Rush Creek coming above its banks and flooding Saratoga Drive to make it impassable (at least in 2007), and rising into the yards that surround it, and water retention in some back yards of houses on Heatherwood Drive. As we understand Alternative Plans F2, F3 and F4, the Corps proposes to construct an embankment to cutoff the existing flow diversion from the Blanchard River to Lye Creek during flood events. "In order to mitigate damages due to increased flow in the Blanchard River upstream of its confluence with Lye Creek, structures in these areas are being evaluated for non-structural measures." Alternative F4 speaks to a "range of nonstructural measures" including

acquisition and removal of buildings, elevating building floor levels, flood-proofing and installing localized ringwalls. The evaluation of building elevation, flood-proofing or ringwalls is based on managing flood risk to the 100-year event plus one foot." The "induced flooding" in our area has been described as being "two and one-half inches or higher". The amount of increased flow in the Blanchard River in a 100-year flood is estimated to be a 4 to 6 inch increase at the Bright Road Bridge. We also were told that the 1913 flood had a considerable greater quantity of water than the 2007 flood so a flood like 1913 would be worse than the 2007 flood as to the quantity of water and amount of flooding in Findlay and our neighborhood. As stated at the Corps Findlay public meeting and in various Corps documents, the standards by which the Alternative Plans are to be judged include:

- Future without-project conditions and potential impacts resulting from the various components of each alternative plan will be assessed in relation to several parameters including the following social, economic and environmental categories: property values and tax revenues, community cohesion and growth, land use, hydrology, and aesthetics.
- The alternative should reduce the risk of damage from flooding and lessen the damage from flood events-there should be net benefits and reduced damages.
- The alternative must be cost-effective. The estimated cost of the alternatives which could affect our property is \$110 to \$140 million.
- The alternative recommended must be reasonable.
- The alternative recommended must comply with applicable statutes, executive orders and policies.
- The Corps must evaluate social considerations such as the evaluation of urban and community impacts such as life, health and safety factors, estimations of displacement, and evaluations of changes in emergency preparedness.
- The Corps must evaluate residual risk. Residual risk is the flood risk that remains after all efforts to reduce the risk are completed. Residual risk is the exposure to loss remaining after other known risks have been countered, factored in or eliminated. Based upon these standards and other reasons as stated herein, we oppose Alternate Plans F2, F3 and F4 or any other plan developed by the Corps which will involve Scarlet Oak or Heatherwood Drives or surrounding areas being made a "non-structural mitigation area" and that could or will subject our property to "induced flooding" and "induced damages".

Our specific points of opposition include:

- Our property and area escaped flooding in 2007 but the storm sewers in the street were full and started acting as a conveyance of floodwaters to the street and adjoining properties. Our immediate neighborhood from Heatherwood and Scarlet Oak over to Rush Creek and Saratoga

Drive was fully saturated and flooded in parts by water during the 2007 flood. Some houses in the area suffered significant damage to their basements. We believe our house has an adequate margin of safety that we will have no flooding if there is another flood event like 2007 or even if there is a flood like the 1913 flood. If the referenced Alternate Plans are chosen, however, we fear what the effects of an additional 2.5 inches or more of water in the Scarlet Oak area and an additional 4 to 6 inches water at the Bright Road Bridge could have on our neighborhood. The storm sewer system was at capacity and was over-flowing in August 2007. Adding 2.5 inches or more or 4 to 6 inches of water to a neighborhood that is at its capacity makes no sense to us and is unreasonable. The federal government's own resources indicate that the nation has been having an increased number of intense rainfall events, so the Corps action will be placing us at an increased risk of damage from these increased number of events.

- The selection of these alternatives will clearly not reduce the risk of damage from flooding in our area and definitely will not lessen damage from flood events. Instead, it will significantly increase the chance of flooding, increase the risk of damages from any flooding and increase any damages from flood events. Again, it makes no sense to us to turn an area which had no flooding or some flooding to an area with substantially increased risk of flooding. It also makes no sense to us that the Corps would then have to take "non-structural measures" to mitigate damages which will be caused by its own actions. It makes far better sense if the Corps never takes action in the first place which places our property at greater danger. The proposed alternatives affecting our property are not reasonable and should not be adopted.

- We bought our house with no reasonable fear of flooding. We have lived here for over 17 years without flooding while there have been several flood events in Findlay and Hancock County. Our investment and the cost of our house were based on no realistic concern for flooding. Any government action which induces flooding in our area will certainly hurt property values and our ability to sell our house at some point in the future. It is unreasonable for the government to take action to create or increase a flooding risk for landowners and to hurt property values that have otherwise have increased or been maintained (other than during the recent recession).

Government action which lowers property values will also lower tax revenues as the appraised values of houses will be impacted. Damage from government-caused flooding, even if temporary in nature, is a "taking" and requires compensation under the Fifth Amendment to the United States Constitution. Rather than having to seek and obtain compensation if the Corps floods our property, we would rather the government take no action which could result in a "taking". The reasonable alternatives for the Corps to pursue are ones which do not result in a "taking" of private property especially when other less costly and burdensome alternatives are available.

- The Corps will also examine a range of non-structural measures including acquisition and removal of buildings, elevating building floor levels, flood proofing and localized ringwalls in our area. Acquisition and removal of buildings would work a plight on the neighborhood as the government would replace moderate to high-end housing with vacant, deed-restricted lots. It is in no way cost-effective to replace a perfectly good house with a vacant lot because of

governmental action. That would be unreasonable. Elevating building floor levels would make houses look unnatural and out-of-character with the existing neighborhood. We don't see how that action could be cost-effective either. Localized ringwalls would be unattractive and an undesired landmark that we do not want for our neighborhood when we currently have no flooding problems.

- The alternatives that would impact our neighborhood are not cost-effective. The expenditure of \$110 to \$140 million in order to create flooding in neighborhoods where it currently does not exist or has been minimal is unreasonable. The Corps has and can come up with cost-effective options which do not result in induced flooding in what are now healthy and vibrant neighborhoods.

- The Corps must evaluate social considerations to include urban and community impacts such as the life, health and safety factors, estimations of displacement, and evaluations of changes in emergency preparedness. The social, health and safety and emergency preparedness factors all are against the potential alternatives which could adversely impact our neighborhood and cause flooding where it did not occur before the proposed alternative measures or make it worse than that which would occur without the proposed changes. Again, the most reasonable alternative is to do nothing which will place our neighborhood at greater risk than that which currently exists.

- The Corps looks at residual risk. Residual risk is the flood risk that remains after all efforts to reduce the risk are completed. Residual risk is the exposure to loss remaining after other known risks have been countered, factored in or eliminated. Here, there is very little or no residual risk if the Corps does nothing that impacts our neighborhood whereas the residual risk will be substantially increased if the Corps proceeds with any of the alternatives that impact our area. Proceeding with an alternative which increases residual risk for our neighborhood is unreasonable.

- We understand that the Corps relies on various models to evaluate its alternatives. Here, you will be using models to project river flows where you are re-routing the existing river flow so there is a factor of uncertainty in such an approach as to the increased flows it will have in neighborhoods like ours. You then have to layer on a stormwater flow model which would seem to be highly unpredictable given all the variables of the system. In sum, we question whatever accuracy can be achieved with such a modeling system and particularly question how accurate it can be as to the stormwater system which is already at capacity with a storm like the 2007 flood. We further question any use of models which may be used to justify the Corps use of the noted options. In conclusion, we oppose any alternatives that will make Scarlet Oak Drive and other residential areas a part of a "non-structural mitigation area" which would then subject these properties and homes to "induced flooding" and "induced damages" as such alternatives are unreasonable. Designing a system that will purposely cause residential properties and homes that have not flooded in the past to become flooded is not a legitimate or responsible solution and is much worse than making no changes. Furthermore, there are other alternatives available to

address the flooding issues that would not cause flooding to the properties and homes on Scarlet Oak Drive and other residential areas. Thank you for your efforts and your consideration of our comments. We can be reached through our e-mail, home address and or above listed telephone numbers if you would like to further discuss our comments and concerns.

Footnote 1: <http://climate.nasa.gov/evidence> Footnote 2: Arkansas Game and Fish Commission v United States, U.S. Supreme Court Case No.

11-597 (December 4, 20 12).

Responses:

In the course of optimizing and verifying the hydrologic and hydraulic models, it was determined that the area around and including Scarlet Oak Drive is not anticipated to receive induced flooding as a result of the implementation of the project. It should be noted that even though this area is not anticipated to receive induced flooding; flooding can still occur and damages may result depending on the nature and intensity of a given flood event.

The recommended plan will reduce the risk of flood damages, and must be cost effective (Providing average annual net benefits and a benefit-cost ratio greater than 1.0). Residual risk has been evaluated and documented in the Economic Appendix. USACE analyzed three non-structural alternatives in conjunction with the recommended plan (see Economic Appendix). USACE is not recommending a non-structural component in conjunction with the recommended plan because the recommended provided higher average annual net benefits without the non-structural component. USACE has documented social, health, safety and emergency preparedness factors in the EIS. USACE must mitigate for any induced flooding that occurs as a result of project implementation, which is determined to be considered a “taking” in Federal law. It should be noted that residual risk (expected annual residual damages after implementation of a flood risk management project) is documented for all alternatives in the Economic Appendix and every alternative reduces residual risk versus a no action plan.

Questions/Comments: from John K., John J., Samantha, and Hailey Maguire as well as Anne Shiple

It is our understanding that the Army Corps of Engineers (Corps) has requested that all questions at the March 19, 2013 meeting concerning flooding be presented by Council members and not by members of the public. Accordingly, and to assist you in this process, we are providing you these questions for presentation on our behalf. It is interesting and unusual that we will not be afforded an opportunity to ask the Corps questions as we will be the persons directly impacted by any Corps decisions (we are significant stakeholders in the proposals) but that is an issue with the Corps and not with Findlay City Council. We will also send a copy of this letter to the Corps so

they can review the questions in advance of the meeting. As you are aware from prior correspondence, we are extremely concerned that Scarlet Oak Drive is being considered as part of a "non-structural mitigation area" and that our area could be subject to "induced flooding" and "induced damages". Designing a system that will purposely cause residential properties and homes that have not flooded in the past to become flooded is not a legitimate or responsible solution and is much worse than making no changes. Furthermore, there are other alternatives available to address the flooding issues that would not cause flooding to the properties on Scarlet Oak Drive and other residential areas. As a result, we oppose any measure that will subject out property and the property of others to an increased risk of flooding and damage. Furthermore, we believe that Scarlet Oak Drive should be considered as part of the flood mitigation project based on past history and especially as the result of the flooding in August of 2007. By way of background, we were fortunate during the August 2007 flood that there was no damage to our home. The storm sewers servicing Scarlet Oak Drive in the vicinity of our home did overflow, causing a portion of Scarlet Oak and Heatherwood Drives to become flooded such that portions of both streets became impassable, except for very high clearance vehicles and even then these were driving through water that reached the top of the front bumpers. The floodwaters came over our sidewalks in the cul de sac of Scarlet Oak Drive and were proceeding up the drive way. Additionally, Rush Creek, which is in back of our property, greatly overflowed its banks and was almost level with our backyard. Fortunately, the flood waters crested before reaching the house. Our sump pump ran continuously and the crawl space flooded, but the water did not come into the house. However, the flood waters filled some of our neighbors' basements on Scarlet Oak and neighboring streets destroying furnaces, furniture, washers, dryers and other appliances and personal belongings. In one of the other post-2007 Findlay flood events, there was some street flooding on Scarlet Oak Drive because of storm sewers overflowing, but this did not exceed a few inches and was passable by vehicles. In the 2007 flood and in other flood events, there is quite a bit of water retention in our general area as evidenced by Rush Creek coming above its banks and flooding Saratoga Drive to make it impassable (at least in 2007), and rising into the yards that surround it, and water retention in some back yards of houses on Heatherwood Drive. As we understand Alternative Plans F2, F3 and F4, the Corps proposes to construct an embankment to cutoff the existing flow diversion from the Blanchard River to Lye Creek during flood events. "In order to mitigate damages due to increased flow in the Blanchard River upstream of its confluence with Lye Creek, structures in these areas are being evaluated for non-structural measures." Alternative F4 speaks to a "range of nonstructural measures" including acquisition and removal of buildings, elevating building floor levels, flood-proofing and installing localized ringwalls. The evaluation of building elevation, flood-proofing or ringwalls is based on managing flood risk to the 100-year event plus one foot." The "induced flooding" in our area has been described by the Corps as being "two and one-half inches or higher". The amount of increased flow in the Blanchard River in a 100-year flood is estimated by the Corps to be a 4 to 6 inch increase at the Bright Road Bridge. Questions as to Corps Authority to Proceed With These Proposals Our first set of questions relate to what requirements does the Corps have to

follow if it wants to seriously consider an alternative which would induce flooding and induce damages in the Scarlet Oak Drive area.

I. Does the Corps agree that the following are the standards by which such alternatives will have to be judged and can you describe any other standards in federal law, regulation or guidelines it is required to follow:

- Future without-project conditions and potential impacts resulting from the alternative plan must be assessed: property values and tax revenues, community cohesion, land use, hydrology, and aesthetics must be reviewed.
- The alternative should reduce the risk of damage from flooding and lessen the damage from flood events-the selected alternative should result in net benefits and reduced damages.
- The alternative must be cost-effective. The estimated cost of the alternative which could affect our property is \$110 to \$140 million.
- The alternative recommended must be reasonable.
- The alternative recommended must comply with applicable statutes, executive orders and policies. Can you be more specific as to what are the applicable statutes, executive orders and policies?
- The Corps must evaluate social considerations such as urban and community impacts to include life, health and safety factors, estimations of displacement, and evaluations of changes in emergency preparedness.
- The Corps must evaluate residual risk. Residual risk is the flood risk that remains after all efforts to reduce the risk are completed. Residual risk is the exposure to loss remaining after other known risks have been countered, factored in or eliminated.

2. Would the Corps representative please discuss these factors in detail and how "induced flooding" and "induced damages" in our neighborhood will satisfy these requirements?

3. Are there any other requirements or standards in federal law, regulation or guidelines that the Corps must follow in considering the flood options for our neighborhood and if so, would you please explain in detail what these requirements, standards and or guidelines are? Questions as to the Amount of Water in Our Neighborhood Our second set of questions relate to how much water was in our neighborhood in the 2007 flood and how this amount of water would be affected by the alternatives under consideration. 1. How much flooding and water retention would there already have to be in the Scarlet Oak Drive and surrounding areas in a storm like 2007 or a 1 00-year storm event before the Corps prohibit the placing of any more water in those areas? 2. What factors would the Corps look to in making such a determination?

3. In the flood of 2007, the storm sewers in the street were filled beyond capacity, over-flowed and started acting as a conveyance of floodwaters to the street and adjoining properties. Our immediate neighborhood from Heatherwood and Scarlet Oak over to Rush Creek and Saratoga Drive was fully saturated and flooded in parts by water during the 2007 flood. Some houses in the area suffered damages to their basements. How can you justify and what is the Corps' authority to add even more water to those levels where there already was full saturation and some flooding in the 2007 flood?
4. Once the storm sewer overflows as it did in 2007 and Rush Creek had risen in neighbors' back yards, what impact will adding 2.5 inches or more of water have on Scarlet Oak Drive?
5. When the storm sewer already gets overloaded as in the 2007 flood, where will any additional water go if there is "induced flooding"?
6. The Corps has also spoken of there being 4 to 6 inches more of water in the Blanchard River at the Bright Road Bridge if this "induced flooding" alternative is selected. Can you explain and reconcile how there will only be 2.5 inches or more water in our neighborhood yet 4 to 6 inches more in the river in our immediate area?
7. Would you agree that your 2.5 inch or more prediction could actually be 4 to 6 inches?
8. In 2007, our house had a margin of safety but a number of our neighbors were not so fortunate and had no margin of safety and were flooded. Some of the house flooding would appear to be random. How do you determine if there is and will be an adequate margin of safety for our neighborhood under these circumstances?
9. What would you define as being an adequate margin of safety?
10. Can there ever be an adequate margin of safety if some houses already suffered flooding in 2007 and you propose to add more water to this area by "induced flooding"?
11. Are we already beyond an adequate margin of safety in our neighborhood so no more water should be added?
12. Does the 100-year flood event plus one foot standard apply here to determine a margin of safety or does this just apply to measures such as building elevation, flood proofing or ringwalls?

Miscellaneous Questions:

13. The federal government's own resources indicate that the nation has been experiencing an increased number of intense rainfall events. Accordingly, is the Corps proposed action essentially placing us in an increased risk of flooding and damage.
14. Does the Corps agree that the selection of an alternative which may "induce flooding" will clearly not reduce the risk of damage from flooding in our area and definitely will not lessen

damage from flood events and if not in agreement, please state all reasons on which the Corps disagrees?

15. What kind of "non-structural measures" would you consider for our neighborhood?

16. Would you agree that it generally is better for the Corps to choose an alternative which will not require "non-structural measures" to be installed to fix the damage that your selected alternative causes?

17. How does the Corps determine whether the proposed alternative affecting our property is or is not reasonable and what are the factors in this determination?

18. Our investment and decisions to purchase our homes were based in part upon the fact that these houses were generally not subject to flooding . Does the Corps agree any government action which induces flooding in our area will hurt property values and our ability to sell our homes in the future?

19. Does the Corps also agree that government action which lowers property values will also lower tax revenues as the appraised values of houses will be impacted?

20. How will the government compensate us for the damages to the value of our homes and our diminished ability to sell our homes from government-caused flooding?

21. We have been advised that the Corps will also examine a range of non-structural measures including acquisition and removal of buildings, elevating building floor levels, flood-proofing and installing localized ringwalls in our area. Would you agree that acquisition and removal of buildings would be blight on the neighborhood as the government would replace well maintained existing housing with vacant, deed-restricted lots?

22. When and under what circumstances are you allowed to acquire homes?

23. Can you explain how it could be cost -effective for the government to tear down a perfectly good house creating a vacant lot?

24. Would you agree that elevating building floor levels would make houses look unnatural and out-of-character with the existing neighborhood?

38. How can designing a system that will purposely cause residential properties and homes that have not flooded in the past to become flooded be a legitimate or responsible solution?

39. If members of the public who are impacted by your selection of alternatives do not agree with the alternative the Corps selects, what are our options? Thank you in advance for your efforts and your presentation of our questions to the Corps at the upcoming March 19, 20 13 City Council meeting. We would be happy to meet with any of our local government officials to discuss these questions and our concerns before or after the March City Council meeting, and we

are always willing to meet with Corps representatives. We can be reached at the above-referenced telephone numbers and address listed above if you would like to further discuss our questions and concerns.

Responses:

In the course of optimizing and verifying the hydrologic and hydraulic models, it was determined that the Heatherwood and Scarlet Oak area are not anticipated to receive “induced” flooding. It should be noted; that even though this area will not be part of the plan; flooding can still occur and damages may result depending on the intensity of the specific event.

The tentatively selected plan will reduce the risk of flood damages, the alternative must be cost effective (Providing average annual net benefits and a benefit-cost ratio greater than 1.0) and residual risk has been evaluated and documented in the Economic Appendix.

The following is a list of USACE flood risk management guidance and regulations:

- **ER 1105-2-100 - Planning Guidance Notebook**
- **Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies**
- **ER 1105-2-101 – Risk-Based Analysis for Evaluation of Hydrology/Hydraulics, Geotechnical Stability, and Economics in Flood Damage Reduction Studies”.**
- **EM 1110-2-1619 – Risk Based Analysis for Flood Damage Reduction Studies**
- **EO 11988 (Floodplain Management) and corresponding ER 1165-2-26 implementation guidance.**

The recommended plan is not expected to have a significant impact on property values. If city assessors were to revise assessed values there will be a corresponding change in tax revenue given tax rates remain constant. USACE analyzed three nonstructural alternatives in conjunction with the tentatively selected plan. This analysis can be found in the Economic Appendix. USACE is not recommending a nonstructural component in conjunction with the tentatively selected plan because the recommended plan provides higher average annual net benefits without the nonstructural component. A structure buyout is cost effective when expected annual damages are higher than the annualized cost associated with the buyout. USACE is not recommending a nonstructural component in conjunction with the recommended plan.

Questions/Comments: from Perry and Janice Miller

"PURPOSE OF STUDY: STRUCTURAL MEASURES: WILL NOT RESULT IN ELIMINATION OR SIGNIFICANT REDUCTION OF RISK OF FLOODING IN BLANCHARD WATERSHED" - The statement above is from page 8 of the 38 page

presentation given by Mike Pniewski, Project Manager of the Blanchard River Watershed Study, at the December 10-12, 2012 public information meetings. This conclusion is the result of spending multiple millions of dollars studying measures that could be taken to alleviate flooding within the city and village limits of Findlay and Ottawa. One plan even calls for more flood inundation in one of the more exclusive housing subdivisions (Pheasant Run) in Findlay?? Existing flooding problems in rural areas are of no concern and are not addressed. The monies spent so far would have been much better used to clean the existing channel for the entire length of the river. All solutions proposed thus far would only intensify flooding east and south of Findlay and create flooding issues west of Findlay where none existed previously. Furthermore, the costs of such projects (estimated to be in the hundreds of millions of dollars) would be divided and assessed on a per acre basis to all properties in the watershed. Thus those who would experience increased property and crop damage from flooding are forced to finance a project designed exclusively to benefit only Findlay and Ottawa. Questions of how much higher flood levels would rise east of the river adjacent to a proposed levee have been deflected saying no information yet exists. On the other hand, it was stated that flood levels would be 2.5 inches higher several miles downstream at Pheasant Run Subdivision in Findlay. The two statements are contradictory. A recurring question asked at all meetings we've attended suggests a thorough cleaning of the existing river channel and riparian of obstructions. This would promote higher volume of river flow, sooner and at lower water levels, after rainfall events, to help alleviate flooding from minor to moderate rains. The answer given that cleaning would not do much to relieve flooding and cleaning cannot be accomplished anyway because of EPA restrictions. This statement is not believable because of constant restrictions occurring and reoccurring in the river channel from fallen trees and log jams. The statement about the EPA has not been sufficiently explored or pursued. In 2007 three riffle structures were constructed in the Blanchard River thru the City of Findlay. These structures tend to slow the movement of water down river thru Findlay which seems quite opposite the intention of currently proposed projects in Findlay. The original stated goal of the Flood Mitigation Committee was to help mitigate flooding from minor to moderate rainfall events and to benefit all areas of the watershed. Current discussions and studies focus exclusively on mitigation of 100 year or major flooding events. These events cannot be mitigated with positive cost/benefit ratios, or at any cost according to the statement beginning this letter. We recognize flooding issues of Findlay need to be addressed, but flooding issues of rural Hancock County are also real. Have past or future property and financial losses from rural areas such as residences, business and agriculture ever been accounted for? Shifting the flooding from one area to another is not solving the problem. Realistically, all flooding issues cannot be solved-- only minimized. The increase in flooding the past few years has been blamed mainly on increased rainfall but residents of rural Hancock County adjacent to the Blanchard River and its tributaries have been dealing with increased flooding issues for at least 20 to 30 years. Developments, especially of lowlands, road construction, and neglect of the river along with increased rainfall from 2007-2011 have contributed to our problem. Flood mitigation needs to start at the mouth of the river, not somewhere upstream. Until efforts for flood mitigation can

focus priorities to first improving the flow characteristics of the entire existing river channel, we can only support the proposed projects that address that issue.

Responses:

Property and financial losses are accounted for within the benefit to cost ratios, which inform the selection of the recommended plan. See the Feasibility Report, as well as the Economic Appendix for more information. The existing floodplains were used in creating the current model for assessing areas where flooding is a concern and all areas were considered equally during the planning process.

The Feasibility Report outlines the existing conditions and floodplain maps for the project area. The recommended plan has average annual net benefits and a positive benefit-cost ratio (see economic appendix for detailed analysis). Future expected annual damages avoided have been estimated for residential, commercial, and agricultural structures. A detailed agricultural analysis will be conducted during optimization and scaling to quantify existing damages and the expected annual benefits associated with agricultural crop flooding. This will be provided in the Final Feasibility Report.

Questions/Comments: from Mr. David Oman

Some of our farms lie next to an Eagle Creek bypass farm. We have 3 ditches and 2 of them flow into Aurand Run on our farm. Now when we have a hard rain our land floods up to the back of our barn. It lasts 1 day and is gone to the Blanchard River. We have never lost any crops in the 60 years we've lived here. With our ditches flowing into the project the water will back up on our farms and cover them 2 or 3 days like Findlay and crops can't be covered that long. Probably then the water will reach our house. We will never know and cannot prove how costly and serious this will be until it happens and then you will say we should have presented damage claims when the project was in process. Also it is stated there will be no new bridges. We will have to drive across the project because it will be dry most of the time. Then the community will be mad and petition the county and township to build bridges at our expense. All we are doing is sacrificing the rural area hicks' [sic] properties for dear old Findlay. Being in politics 16 years I understand. The Portage River and others have been cleaned because I paid cleaning and maintenance. This could be done with the Blanchard River and all who drain into it would be assessed. This is too simple because we have to worry about a snail no one else worried about. Also, the bridges crossing the Blanchard River could be corrected as planned. Buying properties in the flood areas is a good idea and all of them could be bought for less than this project costs and the problem would be solved forever. Instead of attending meetings we must hire some good lawyers.

Responses:

The Aurand Run Diversion Channel is no longer being considered as a viable FRM Project; this alternative was screened from further consideration due to the negative environmental impacts associated with this measure as well as its higher cost versus the Alternative 2 alignment.

The City of Findlay has been proactive in purchasing properties for acquisition and demolition and for elevation. The current plan calls for a diversion channel 9.3 miles long, which would be placed in the area of a natural bedrock groove resulting in a lower amount of rock excavation.

Once the H&H modeling is complete, areas with induced flooding will be identified. An attorney will then do a Physical Takings Analysis to determine if the induced flooding results in the requirement to acquire a real estate interest. The analysis is based on height, frequency, volume and duration. If it is determined that the amount of induced flooding results in a take, the appropriate real estate interest (flowage easement, fee, etc) will be acquired by the non-Federal sponsor for the fair market value as determined by a licensed appraiser IAW P.L. 91-646.

A cursory analysis was conducted to assess structural buyouts for all properties within the 2007 floodplain; the cost of buyouts exceeds benefits. There are additional costs associated with buyouts beyond the scope of structure market value.

Questions/Comments: from Kenneth Westlake, USEPA Region 5

The proposed project's impacts on air quality should be assessed by evaluating the impact of the proposed actions on the NAAQS. The proposed project's "build" and "no-build" emissions should be inventoried for each reasonable alternative. The inventory should include both direct and indirect emissions that are reasonably foreseeable. Be aware that there may be state and local air quality requirements to consider. These requirements can include, but are not limited to, provisions such as State indirect source regulations and state air quality standards.

Responses:

An assessment of the proposed actions on the NAAQS is provided in the Impacts Section of the Feasibility Report.

Questions/Comments: The forthcoming Draft EIS should discuss any possible conflicts between future proposed actions and Federal, state, regional, or local land use plans, policies, or controls for the areas in which project construction may occur, and should describe the possible present and future conflicts, as well as approaches to resolving those conflicts.

Responses:

Possible conflicts concerning land use is addressed in the Cumulative Impact Assessment Section of the Feasibility Report.

Questions/Comments: The forthcoming Draft EIS should recommend specific measures and best management practices (BMPs) that will be undertaken to minimize construction impacts to air quality, water resources, soil, and other regulated resources. Recommendations should be tailored to specific proposals associated with aspects of the project.

Responses:

Best management practices have been included in the Impacts Section of the Feasibility Report.

Questions/Comments: USEPA recommends the Draft EIS include a discussion of tree clearing/removal required for diversion channel construction. The Draft EIS should also specify if trees will be mechanically cleared (bulldozed) or cut at their base (leaving the trunks intact). If located in wetland areas, this differentiation in tree removal is important with regard to regulatory requirements under Sections 404 and 401 of the Clean Water Act. Additionally,

Questions/Comments: USEPA recommends voluntary mitigation for any tree loss associated with the project. Mitigation might include, but is not limited to, replanting of native tree species in proposed mitigation areas, or assisting local, county, or state agencies with any appropriate ongoing or planned reforestation plans. The Draft EIS should document any voluntary or regulatory mitigation measures or requirements to be undertaken to compensate for tree loss. Also, effects on biodiversity due to the proposed actions, in accordance with 40 CFR 1507.2(e), 1508.8(b) and 1508.27, should be considered and discussed in the forthcoming Draft EIS.

Responses:

Tree clearing has been addressed within in the Impacts Section of the Feasibility Report. Replanting of native tree species that are not subject to any present pathogens is proposed as mitigation for this project and is further discussed in the Mitigation Plan Appendix. The effects on biodiversity as a result of project implementation are also discussed in the section that outlines impacts to resources within the project area, (which include discussions on impacts to wetlands, vegetation, wildlife resources and listed species).

Questions/Comments: USEPA recommends that USACE coordinate further with USFWS and the Ohio Department of Natural Resources (ODNR) – Biodiversity Database Program to determine in any listed species are present in areas proposed for work associated with the project, and if any aspects of the proposed project would or could detrimentally affect any listed species or their critical habitat.

Responses:

Information concerning the presence of listed species was provided by the appropriate agencies during the scoping period. Agency documentation outlining coordination on listed species can be found in the Environmental Resources Appendix of this Integrated Report. This includes the formal coordination through emails, letters and a Fish and Wildlife Coordination Act report.

Questions/Comments: USEPA requests that this mussel survey be included as an appendix to the Draft EIS, along with copies of correspondence to and from the USFWS and the Ohio DNR regarding coordination on Federally- and state-listed endangered or threatened species.

Responses:

A mussel survey will be completed during the Preconstruction, Engineering and Design (PED) Phase. Conducting the survey during this phase as opposed to the Feasibility Phase will increase the likelihood that the data collected would still be relevant during the Construction Phase (there is a five-year period where mussel survey data is considered valid, according to the Ohio Mussel Survey Protocol released by the ODNR and USFWS in April 2014). Conducting the survey during the PED phase would also decrease the likelihood that plans including the siting of structural measures would change. This would decrease the chances of having to remobilize for a subsequent mussel survey while increasing the likelihood that the proposed scope/scale of the survey will be adequate.

Questions/Comments: As this project proposes impacts to the Blanchard River and its tributaries, coordination with these agencies under this Act appears to be warranted. In the Draft EIS, please include correspondence with agencies (both sent to, and received from) regarding coordination under the Act.

Responses:

See the Public and Agency Comments Section within the Environmental and Cultural Resources Appendix for Agency Correspondence (the current section).

Questions/Comments: The Draft EIS should demonstrate that USACE has determined whether hazardous wastes as defined in 40 CFR part 261 (RCRA) will be generated, disturbed, transported or treated, stored or disposed, by the action(s) under consideration. If so, management of these wastes is regulated by 40 CFR parts 260-280 and transportation is governed by 49 CFR parts 171-199. An appropriate level of review regarding the hazardous nature of any materials or wastes to be used, generated, or disturbed by the proposed action, as well as the control measures to be taken, should be provided in the Draft EIS.

Response:

Environmental site assessments (ESAs) and a hazardous materials screening were performed in 2010, 2012, and 2013 for properties within the project area. Phase I ESAs

were conducted in accordance with American Society for Testing and Materials (ASTM) standard practices E 1527-05 and E 2247-08.

- **Phase I ESAs, City of Findlay (2010):** 241 properties in the Blanchard River corridor from Interstate 75 to Bright Road were evaluated. Commercial, industrial, exempt (municipal), agricultural, and residential parcels were included.
- **Phase I ESAs, Village of Ottawa (2010):** 172 properties in the Blanchard River corridor from County Road 8 to Glandorf Road were evaluated. Commercial, industrial, exempt (municipal), mining, railroad, agricultural, and residential parcels were included.
- **Hazardous Materials Screening (2012):** A hazardous materials screening was conducted to identify any sites with significant environmental concerns that may inhibit future development on parcels within five tentative flood mitigation features in Putnam and Hancock counties. The screening involved reviewing information from available national and local databases, reports maintained by the State Fire Marshall, historic USGS topographic maps, and historic aerial photography.
- **Phase I ESAs (2013):** Properties within areas that correspond to the tentatively selected plan were evaluated. These areas included:
 - Blanchard-Lye Levee and Mitigation Areas (20 properties)
 - West Diversion Alignment (116 properties)
 - Norfolk-Southern Railway Bridge, Findlay (62 properties)
 - Berm Storage Areas, Findlay and Ottawa (36 properties)
 - Mitigation Areas, Ottawa (13 properties)
 - Blanchard River Channel Realignment, I9 Bridge Embankment and Mitigation Areas, Ottawa (17 properties)

The Environmental Compliance Section of the Feasibility Report provides a determination of the potential for hazardous wastes (RCRA), hazardous substances (CERCLA), PCBs (TSCA), and petroleum products to be generated, disturbed, transported, treated, stored or disposed by the action(s).

Questions/Comments: Information on the location of HTRW sites and the status and results of appropriate investigations of those sites should be included in the Draft EIS.

Responses:

Results of the ESAs and hazardous materials screening provided in the Existing Conditions and Assessment of Environmental Impacts sections of the Feasibility Report as well as the HTRW section of the Environmental Appendix.

Questions/Comments: USEPA requests that the Draft EIS include extensive information about coordination efforts undertaken with Tribes and the SHPO as well as how that consultation has affected (or will affect) the feasibility of potential project alternatives. If warranted, consultation with Tribal Historic Preservation Office (THPO) for potentially-affected tribes should also be undertaken, and applicable correspondence included in the Draft EIS.

Responses:

Coordination efforts that include Tribes and the Ohio SHPO are outlined in the Existing Conditions, Assessment of Environmental Impacts sections and within the Environmental and Cultural Resources Appendix. At this time, we are proposing to execute a Programmatic Agreement with consulting parties prior to completion of the Final EIS which outlines the Agency's responsibilities regarding further identification of areas of cultural significance, impacts, and coordination with the consulting parties prior to construction of the recommended plan.

Questions/Comments: The Draft EIS should document how actions to be taken by USACE are in compliance with existing guidance and procedures, including, but not limited to: Council on Environmental Quality (CEQ) – Environmental Justice: Guidance Under the National Environmental Policy Act, December 10, 1997; Final Guidance for Consideration of Environmental Justice in Clean Air Act 309 Reviews, July 1999; and Executive Order 12898.

Responses:

The Environmental Compliance Section of the Feasibility Report documents applicable statue compliance as it relates to the Blanchard project.

Questions/Comments: While a Section 404 permit under the Clean Water Act would not be required from USACE as USACE is the project sponsor, USEPA still expects that USACE's design will be contingent upon the project complying with the Section 404(b)(1) guidelines under the Clean Water Act. These guidelines are summarized as follows:

- Least Environmentally Damaging Practicable Alternative (LEDPA) – There must be no practicable alternative to the proposed discharge (impacts) which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences;
- No Violation of Other Laws – The proposed project must not cause or contribute to violation of state water quality standards or toxic effluent standards, and must not jeopardize the continued existence of Federally-listed endangered or threatened species or their critical habitat(s).
- No Significant Degradation – The project must not cause or contribute to significant degradation of Water of the United States; and

- Minimization and Mitigation of Adverse Impacts – The project must include appropriate and practicable steps to avoid impacts to regulated Waters of the United States; where impacts are unavoidable, demonstration of how impacts have been minimized; and must provide compensatory mitigation to offset unavoidable, minimized impacts to the aquatic ecosystem.

Responses:

The Environmental Resources Appendix includes 404 documentation that satisfies the intent of the Clean Water Act.

Questions/Comments: The forthcoming Draft EIS should discuss how sequencing established by the Clean Water Act Section 404(b)(1) guidelines has been applied, namely, avoidance first, then demonstration of impact minimization, then mitigation for unavoidable, minimized impacts. A discussion on proposed mitigation for unavoidable, minimized stream impacts should also be included in the EA.

Responses:

Details concerning the sequencing of the Clean Water Act are provided in the Draft Feasibility Report/EIS and the Environmental Resource Appendix.

Questions/Comments: In the Draft EIS, USEPA requests an update on the status of the use of these quantitative methodologies (planning models including the Qualitative Habitat Evaluation Index, the Headwater Habitat Evaluation Index, and the Ohio Rapid Assessment method for Wetlands), how they will be used in the development of the final plan, and how they will be used in development of required mitigation.

Responses:

The Qualitative Habitat Evaluation Index will be used to assess the habitat quality of streams that have a drainage area greater than 1 mi² and the Headwater Habitat Evaluation Index will be used to assess habitat quality of any streams that have a drainage area less than 1 mi². These will be used to evaluate the existing conditions, quality of impacted streams and performance metrics for stream mitigation to ensure that there is no net loss to the functions and values of streams within the Blanchard River Watershed. The Ohio Rapid Assessment Method (ORAM) will be used to assess the habitat quality of any wetlands within the project area. ORAM will be used to evaluate the existing conditions, quality of impacted wetlands and performance metrics for wetland mitigation to ensure that there is no net loss to the functions and values of wetlands within the Blanchard River Watershed. Due to a lack of site access, these metrics have not been able to be calculated at this time and thus they have not been used to determine the recommended plan. Desktop evaluations of stream and wetland acreage have been used in determining the

recommended plan and alignments to this point. It is expected that site access will be obtained after the Feasibility Phase is completed, but prior to design and construction.

Questions/Comments: The forthcoming Draft EIS should discuss how sequencing established by the Clean Water Act Section 404(b)(1) guidelines has been applied to potential wetland impacts. Information on the status of the wetland delineation should also be included in the Draft EIS. USEPA requests that the wetland delineation itself be included as an appendix to the Draft EIS. Additionally, a preliminary quantification and summary of potential of wetland impacts associated with each alternative should be included in the Draft EIS, along with a discussion of proposed mitigation (including mitigation ratio, type of mitigation, acres of mitigation proposed, etc.) for unavoidable, minimized wetland impacts.

Responses:

Sequencing for Clean Water Act purposes is addressed in the 404(b)(1) analysis within the Environmental Appendix. The status of the wetland delineation as well as the summary of potential wetland impacts and mitigation measures will be provided in sections the Baseline and Impacts Sections of the Feasibility Report and the Environmental Appendix.

Questions/Comments: The Draft EIS should include a discussion on the secondary (indirect) impacts that can be expected due to implementation of the proposed project. Additionally, the forthcoming Draft EIS should include cumulative effects analyses for resources that would be affected, including, but not limited to, wetlands, surface and ground water quality, air quality, and wildlife. Such analyses can and should inform amounts and types of mitigation to be undertaken to maintain and/or enhance the quality of the environment in the project area. Guidance on evaluating cumulative impacts has been issued by both the Council on Environmental Quality and EPA's Office of Federal Activities.

Responses:

A Cumulative Impacts Analysis is provided in Feasibility Report.

Questions/Comments: USEPA recommends that a Monitoring and Adaptive Management Plan be developed. This may be required by regulatory agencies as part of an approved wetland/aquatic resources mitigation plan. The plan should include a description of proposed monitoring activities, including quantifiable and measureable success criteria for the mitigation work, and should specify the length of the monitoring period(s). Additional information on the party(ies) who will maintain the mitigation site(s) in perpetuity should also be included in the Draft EIS.

Responses: A draft Mitigation Plan that will include a Monitoring and Adaptive Management Plan is described and included as an Appendix to the Feasibility Report. The Corps is proposing to enhance at least 9,094.15 linear feet of highly modified stream

channels by adding floodplain benches and forested/scrub-shrub/emergent riparian buffer along approximately 1,446.41 linear feet of Aurand Run and 7,647.74 linear feet of Lye Creek. This will improve habitat within the stream and help to connect woodlots to serve as a riparian corridor for both aquatic and terrestrial fauna and serve to offset the proposed permanent impacts from the recommended plan and result in no net loss of stream habitat within the Blanchard River Watershed. The Corps is proposing to restore at least 23.2 acres of forested/scrub-shrub wetlands (2:1 mitigation ratio) adjacent to the Blanchard River as compensatory mitigation to offset the unavoidable impacts to freshwater wetlands and ensure that there are no net loss of the functions and values of these special aquatic sites. We will use “Guidelines for Wetland Mitigation Banking in Ohio” to develop habitat restoration planting plans, success criteria, and monitoring protocols. Develop and implement remedial actions if/when habitat restoration areas do not achieve success criteria. Due to the limited site access during the study, however, it is expected that the Mitigation Plan for these wetland and stream impacts would not be finalized until sometime after completion of the feasibility study.

Questions/Comments: USEPA requests the Draft EIS include a copy of the “Interim Feasibility Scoping Report” as an appendix.

Responses:

The Scoping Document for the Blanchard project is located within the Environmental and Cultural Resources Appendix.

Questions/Comments: USEPA requests that the PMP be included with the Draft EIS, and that the Draft EIS discuss benefit-to-cost ratios calculated for each project plan.

Responses:

A Project Management Plan (PMP) outlines the tasks, schedule, costs, and responsibilities required to conduct a USACE General Investigation study. It is not a decision making document relating to the formulation or selection of alternatives for a flood risk management project. Therefore, it is not appropriate to include a Project Management Plan within an Environmental Impact Statement.

Questions/Comments: USEPA requests that statements regarding the “\$150 million dollar plan” made in an article published in Findlay, Ohio’s “The Courier” newspaper on December 13, 2012 be clarified in the Draft EIS.

Responses:

The December 13, 2012 article mentioned in the Findlay Courier related to a series of public presentations made on December 11 and 12, 2012 in which the information in the

scoping packet was presented to the public. The presentation slides have been provided in the outreach section of the EIS.

Questions/Comments: from Mary Knapp, USFWS Ohio Field Office Supervisor

During the past three years, staff from the U.S. Fish and Wildlife Service's, Columbus Ohio Ecological Services Office (Service) has participated with Corps of Engineers staff in meetings within the Blanchard River Watershed and Columbus, and onsite reviews of the areas impacted by flood waters and areas where measures were considered to reduce or eliminate flood damages. There are no Federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the proposed site. As stated in the Federal Register, the EIS will consider Federal actions associated with the proposed Flood Risk Management Study in the Blanchard River Watershed, including the communities of Findlay in Hancock County and Ottawa in Putnam County. Specifically, this document will discuss measures to improve flood risk management, navigation, water quality, recreation, and fish and wildlife habitat in a comprehensive manner in the Blanchard River Watershed, Ohio. The overall goal of the study is to reduce flood risk by saving lives and minimizing property damage in the event of floods in Findlay and Ottawa, Ohio. The plan will consider a range of structural and nonstructural measures that may be used flood risk management in the Blanchard River Watershed. Structural measures may include, but are not limited to, channel realignment/diversion, levees, and floodwall creation, culvert modification, and the creation of flood storage areas, including wetlands, banned containment areas, and water detention areas/reservoirs. Nonstructural measures may include, but not be limited to, elevating existing buildings, relocation or acquisition of flood-prone structures, wet and dry floodproofing, as well as the development and implementation of a flood warning system or flood emergency preparedness plan. In the Corps' December 10, 2012 SCOPING INFORMATION Blanchard River Watershed Study, Section 441, Water Resources Development Act of 1999, nine plans are briefly described under Alternatives Considered. Overall, we are pleased that, for the most part, the plans do not include habitat damaging measures, such as channelization or levee/floodwalls which would destroy aquatic and riparian habitat. Our primary concern is with construction and operational impacts to fish and wildlife resources from the proposed Eagle Creek in-line detention structure in Plan 4. Habitat would be permanently destroyed where the detention structure would be placed. We assume that impacts to the aquatic and riparian habitat would be short term during the period of water retention. Relatively minor impacts would occur to riparian and aquatic habitat associated with the Blanchard River to Lye Creek diversion cutoff, tie-in locations for the westward diversion of Eagle Creek flow to the Blanchard River downstream of Findlay, off-line detention storage areas along the Blanchard River between Findlay and Ottawa, and the proposed Blanchard River diversion channel in Ottawa. In all of the above cases, we recommend that impacts to riparian habitat be limited as much as possible while securing the required access to the stream. Also, we recommend that all diversion channels be designed to only accommodate

stream flows that exceed bankful capacities. The natural, existing stream should be left to function normally, except for flood waters. Habitat losses should be compensated with the usual mitigation measures. In the past, the Service has recommended an Indiana bat habitat assessment in the project area. If the assessment has not been done, we recommend that it be completed, with focus on areas likely to be impacted by project measures. Also, we understand that a mussel survey was completed for the watershed. We recommend that an intensive survey be done in the approximate area for the Eagle Creek in-line detention dam and the approximate area for the Blanchard to Lye diversion cut off. Finally, we fully support nonstructural measures, such as removing structures or flood proofing structures in flood hazard areas. Where feasible, those areas should be planted to retard or eliminate soil erosion and to provide wildlife habitat, as mitigation. Also, we fully support the proposal to implement ecosystem restoration in the area between the Blanchard River meander and the channel diversion in Ottawa. We have no objection to the removal of the embankment by the I-9 Bridge. Apparently with road embankment was raised several years ago without regard to its impact on the river's hydraulics. The above comments are in response to the subject Notice of Intent. Additional comments and coordination will be provided throughout the planning period, in accordance with the Fish and Wildlife Coordination Act, as amended, (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973, as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U.S. Fish and Wildlife Service's Mitigation Policy. The Columbus Ohio Field Office looks forward to onsite reviews of the proposed impact areas, as soon as possible. If you have questions, or if we may be of further assistance in this matter, please contact Angela Boyer at extension 22 in this office.

Responses:

Several meetings between the USFWS and the USACE were conducted since the recommendations based on the USACE scoping document were provided by the USFWS Ohio Field Office (see Public and Agency Involvement Section in the Feasibility Report). Three meetings between the two agencies were held in Columbus, with one each in February 2012, October 2012 and September 2013. It was relayed to the USFWS by USACE during that time that the project will no longer incorporate an Eagle Creek in-line detention structure.

The project is designed to limit impacts to riparian areas. All of our structural measures and ecosystem restoration areas are cited to occur in agricultural lands that are adjacent to forest riparian areas. This approach will serve to increase overall riparian habitat.

The diversion channels associated with the project will be designed to divert only the amount of water necessary to reduce flood risks in Findlay and Ottawa. Currently this is estimated to be flows above a 5- or 10-year storm event in Eagle Creek. Thus, the flows in the downstream section of Eagle Creek will be maintained such that the riparian areas and

associated wetlands will still see flows above bankfull, which should avoid any secondary impacts.

Any habitat losses will be mitigated for in accordance with the federal and state mitigation rules.

Due to difficulty in receiving rights of entry to private property, the USACE is planning on conducting an Indiana bat/northern long-eared bat habitat survey after completion of the Final/EIS and prior to construction. Any areas that are found to be suitable habitat for either of these species that also would be subject to measure implementation would be further studied as part of a mist net survey (as per the 2007 Indiana Bat [*Myotis sodalis*] Draft Recovery Plan). Further coordination with the USFWS Ohio Field office would be conducted if Indiana bats are detected during mist net surveys.

As mentioned with the Indiana and northern long-eared bat habitat effort, intensive mussel surveys will be conducted targeting federally-listed species and their respective habitats. Further coordination with the Ohio Field office would be conducted if federally-listed species are detected.

Where feasible, the USACE will plant in the areas where structural measures will be incorporated in order to minimize or eliminate soil erosion and to provide wildlife habitat, as mitigation. Standalone nonstructural measures are no longer proposed for the present project.

Questions/Comments: from Dean Zeisloft

There are several reasons why we are opposed to the proposed diversion channel and there are questions that will need to be answered. Not all concerns were addressed at the meetings held December 10 through 12th due to the format of the meeting. Agricultural economic damages are not taken into account in the scoping report-it is not mentioned once! There is a onetime payment, but the agricultural businesses are asked to sacrifice forever. Affected farms will have a permanent reduction in incomes in years following loss of the property. Extra fuel costs and time required for farmers and residents having to drive around the diversion channel on township roads without bridges. In our business situation the diversion channel would cut through our farm requiring us to travel 6.4 miles to get to our base of business where currently we only have to drive 1 mile. If County Road 86 does not have a bridge, we will have to travel 7.5 miles by way of State Route 12. This will put slow moving agricultural equipment on heavily traveled roads, which is very dangerous to other traffic. County Road 86 is just as heavily traveled as Route 12. We are not only using the roads during spring and harvest, but monitoring the crops during the growing season. This requires easy access to our properties. Mr. Pniewski told us we may run field outlet tile into the diversion channel. He also informed us we could possibly drive down through the diversion channel so we may cross, but the channel most times will not be dry due to tile emptying into it. Will the EPA regulate the water flowing into the diversion channel

from field tile, for example 'looking for phosphorus or nitrates? We have been told by Mr. Pniewski that it would not and this needs to be put in writing. Are costs to repair farm drainage systems destroyed by the diversion channel included in project costs? Our land needs proper drainage to be productive. The diversion channel is cutting through rural areas without taking into consideration societal-economic damages. There are major concerns for emergency vehicle access and longer response times because there are no plans for bridges on township roads. This may affect property owner's home insurance premiums. Our neighborhood is in a special situation because we will be shut off from emergency services during a flooding situation. There will only be one way in or out of our neighborhood. We were told that the bridges cost too much. Bridges on township roads should be part of the proposal for our neighborhood's safety. Please take the time to look at the neighborhood that lives on Township Road 89. We will be shut off from emergency vehicles in all directions during a flooding event (Mr. Zeisloft resides at 7398 TR 89, Findlay, OH). This is unacceptable! Impact on roads and other infrastructure-costs needs to be included in project costs. What happens to the rural homeowners if there is unforeseen flooding caused by the diversion channel particularly in the area where it meets the Blanchard River? The Army Corps has implied that the diversion channel will never overflow. However in a 2007 flood situation we all know that you cannot ditch away that amount of water, thus making homes that were never flooded in 2007 at risk. Our home did not flood in 2007, but will it now be at risk? For cropland we insure for flooding, but will manmade floods be covered by Federal Crop Insurance? There are concerns of damages that heavy equipment and dump trucks will have on township and county roads during the construction of proposed channel. We have been informed by the Army Corps that the top soil from the channel will be hauled to the old Tarbox-McCall stone quarry. Who is going to pay for the damage to the roads from the heavy truck traffic? Why hasn't Findlay's poor planning been addressed? Why should one group of people make their flooding problems someone else's? Ohio Revised Code 3767.13 in part says "no person shall unlawfully divert such watercourse from its natural course or state to the injury or prejudice of others". One example is the filling in of the old water treatment plant along Western Avenue at the Blanchard River in Findlay. This will not solve the flooding problem by itself. More and more subdivisions are being built draining into the river increasing potential for flooding west of Findlay. We have seen this in our 35 years plus in farming this area. As more and more construction of buildings, parking lots, and streets places runoff directly into the river, it increases downstream flooding. The Route 30 project needs to be investigated because local residents from southeastern Hancock County feel that it makes the Blanchard river rise faster. There are also holding ponds in Findlay and subdivisions that were constructed to address building and parking lot runoff, but always contain water at high levels. Why is this happening? This defeats the purpose of a holding pond. The fact that Findlay sits in a low area by the river has been completely ignored by the general public. Flooding will still happen in Findlay even after substantial amounts of money are spent in constructing a new channel. Meanwhile, rural businesses and residents are asked to sacrifice everyday of every week of every year for a flood that only has a 1% chance of happening each year. The diversion channel encourages Findlay to

do more poor planning in the future. Will there be restrictions where Findlay can build? After we pay for the channel, will these same issues still be of concern in the future? The river needs to be constantly maintained by the elimination of islands, log jams, and sandbars. There are also areas where the river should be straightened starting at the mouth of the river so people downstream do not face increased flooding because of flood mitigation projects upstream. We need to install culverts under bridge approaches or remove embankments. We are happy that the Army Corps agrees that the 1-9 Bridge in Putnam County is a serious problem that needs to be addressed. Agriculture and rural Hancock County has been completely left out of the flood discussions when the Flood Mitigation Partnership was formed. We feel as a small business that we are still left out. The article on the front page of The Courier dated December 31, 2012 stated that the "projects are designed to protect at least \$1 of property for every \$1 spent". "Corps officials have said the return on Findlay's project may be \$2 for every \$1." The benefits come at the expense of rural property owners and businesses. We will receive no benefits and be saddled with loss of land base, income, fuel costs, road restrictions, and declining property values. Our concerns are being ignored. How can the Army Corp justify the costs of the ongoing studies? We have not seen any financial reports released for public review. This should be done immediately. There needs to be accountability to the taxpayers of this community. We also feel that it is the Army Corp's responsibility to let the general public know what stipulations maybe attached to receiving federal funds for this project so the people can make an informed decision on their proposals. The 2007 flood produced 82 billion gallons of water that went through Findlay according to the Flood Mitigation Partnership's research. The diversion channel only moves the water to Liberty and Eagle Townships making it a problem to rural residents and businesses. We are not callous or uncaring about flood issues in Findlay. As a volunteer fireman, I assisted my neighbors who were forced from their homes and had their basements flooded in 2007. We care about our community; however, I do not want future generations saddled with mounting debt from projects that are not necessary. As farmers, we accept risks taken when we plant crops in flood plains as land is very productive. If the river rises, we accept it and we do not complain when it floods. We now have crop insurance that will cover our losses. Our loss was \$19,000 in crop income in 2007. The flooding does not stop at the city limits. Small agricultural businesses and rural residents need to be taken into consideration. We should not be asked to sacrifice for the poor planning of others.

Responses:

USACE cannot comment on the existence or potential for regulation of nutrients from agricultural runoff. Presently, the diversion channel is designed to be a “dry” channel in which water will be directed into the channel during specific storm frequencies. We acknowledge that there may be minimal water in the channel from tile drains and groundwater seepage. In these cases, a roadway within the channel could be elevated with a small culvert to allow these small flows to pass. The types of road crossings over a potential diversion channel will be coordinated during the design phase with the

governmental agencies which control the roadway based on many factors including traffic and emergency service access.

9.0 Distribution List

The following list of recipients include Indian nations, federal, state and local agencies, organizations, local television and radio media outlets and businesses. A complete mailing list is available upon request.

Blanchard Draft DPR/EIS Distribution List	
Indian Nations	
Absentee-Shawnee Tribe of Indians	Miami Tribe of Oklahoma
Eastern Shawnee Tribe of Oklahoma	Ottawa Tribe of Oklahoma
Little River Band of Ottawa Indians	Shawnee Tribe
Little Traverse Bay Bands of Odawa Indians	Wyandotte Nation
Federal Agencies	
Federal Emergency Management Agency	US Department of Health & Human Services - Centers for Disease Control & Prevention
National Park Service – Midwest Region	US Department of Housing and Urban Development
US Department of Agriculture –Forest Service Region 9	US Department of Transportation - Federal Highway Administration
US Department of Agriculture – Natural Resource Conservation Service	US Department of Transportation – Federal Railroad Administration
US Department of Agriculture – Ohio State Farm Service Agency Office	US Environmental Protection Agency – Region 5
US Department of Commerce - National Oceanic & Atmospheric Administration	US Fish and Wildlife Service – Ohio Field Office
US Department of Energy	
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Ohio Environmental Protection Agency	Ohio Department of Transportation
Ohio Department of Health	ODNR – Division of Geological Survey
ODNR – Division of Wildlife	Ohio Historical Preservation Office
ODNR – Division of Engineering	Ohio Emergency Management Agency
Local Agencies	
City of Findlay	Liberty Township Trustees
Eagle Township Trustees	Hancock County Commissioners
Jackson Township Trustees	Hancock County Soil & Water Conservation District
Western Lake Erie Historical Society	Marion Township Trustees
Organizations	
Boy Scouts of America	Northwest Ohio Railroad Preservation Inc.
Hancock Historical Museum Association	Western Lake Erie Historical Society
Audubon Society	Trout Unlimited
Nature Conservancy	Ducks Unlimited
Izaak Walton League	League of Women Voters
Media	
The Findlay Courier	Putnam Sentinel
The Lima News	Toledo Blade/Toledo Free Press
ABC13	Fox36
WNWO	WLIO
WGTE (both TV and Radio)	WTOL
WTVG	WFIN
Businesses	
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